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An Address
ON
A STUDY OF 60 CASES OF MEMBRANOUS COLITIS.

Delivered before the Devon and Exeter Medical Society on Oct. 19th, 1905,

BY W. HALE WHITE, M.D. LOND., F.R.C.P. LOND.,

PHYSICIAN TO, AND LECTURER ON MEDICINE AT, GUY'S HOSPITAL; EXAMINER IN MEDICINE TO THE UNIVERSITIES OF CAMBRIDGE AND LONDON.

GENTLEMEN,—Although membranous colitis is not rare and many cases have been published in France, Germany, and America, no series of cases has been recorded in this country. Therefore it may be of interest to give an account of 60 consecutive patients suffering from this disease whom I have seen and whose subsequent history I have tried to trace. Before doing so it should be noticed that the name is far from perfect and so are other names that have been used, such as mucous colic, glairy enteritis, glutinous diarrhœa, tubular diarrhœa, mucous affection of the intestine, and intestinal croup. Perhaps the most accurate is muco-membranous entero-colitis, but inasmuch as membranes passed from the bowel are nearly always composed of mucus and there is a strong probability that the disease is usually limited to the colon, this cumbersome term may be shortened to membranous colitis. The reasons why this is an imperfect name are that membranes other than those composed of mucus are sometimes passed from the rectum—for example, the sloughs of typhoid fever, and membrane may form on the mucous membrane of the colon as a result of septic inflammation and of infection with the pneumococcus; it may result from mercurial poisoning and from direct injury, and it has been found in association with Bright's disease and diabetes. It is probable that in most of these acute inflammations the membrane is partly composed of necrosed portions of the mucous membrane and none of these conditions have any relation to the disease known as membranous colitis. But even when these cases are excluded it is doubtful whether all cases in which membranes composed of mucus are passed from the rectum should be dignified with the name membranous colitis—for example, it is common to find that dirty-white membranes composed of mucus are passed during a temporary attack of constipation in which the motions are hard. Solid pieces of mucus are often passed by patients who have, or have had, chronic dysentery. I have seen the same after yellow fever and I have notes of many cases of severe diarrhœa, frequently due to demonstrable inflammation of the colon and often lasting for years, which have been associated with the passage of pieces of mucus, but I think that as in these instances the pieces are never large enough to be called membranes, tubes, skins, or casts, the cases should not be included under the name of membranous colitis and none of my 60 belong to these varieties.

When we have put aside the above there remains a group of cases to which the name membranous colitis may be applied if we bear in mind that by the name colitis we do not bind ourselves to the proposition that there is inflammation of the colon but regard the name as indicating that in this disease the colon is so disordered that the mucus secreted by it is passed from the anus in the form of a membrane. The membrane is sometimes in large pieces, sometimes in small, and often it is broken up in its passage along the bowel so that the pieces seen in the fæces vary from tubes—it may be a foot long—to shreds, and these shreds may by the movement of the bowel be rolled up into variously shaped masses. No doubt it will occasionally be difficult to say whether a patient should be regarded as suffering from membranous colitis or from simple constipation or inflammation of the colon as the case may be. Nevertheless, there is a distinct assemblage of symptoms to which the name membranous colitis may be given and we will now see the symptoms presented by my 60 cases. The disease is much commoner among the middle and upper classes than among the poor, for during the same period as that in which I saw in private practice the 60 cases which form the basis of this paper I only saw three or four in hospital practice. Patients sometimes come to the hospital with a note from their medical man to say that they are suffering from membranous colitis, but although we keep them under observation some time we usually do not find any membranes. Possibly most of them are examples of constipation which appropriate treatment in the hospital quickly cures.

Among my cases 51 were women and nine were men. This is a slightly larger proportion of women than many authors find; it is usually stated that from 20 to 30 per cent. of the patients are men, but, at any rate, my series amply confirms the general belief that the disease chiefly affects women. We shall see presently that it is so frequently associated with many forms of neurosis that those who maintain that its cause lies in the nervous system cannot be regarded as unreasonable. This renders its greater frequency among the middle and upper classes and among women of interest. All the patients had had the disease for some while before they came under my notice because they had all been under their usual medical attendant for a longer or shorter time before a second opinion was sought, and as the malady had usually existed for several weeks before any medical man was consulted it was so frequently impossible for the patient to be sure as to the date of commencement that I am unable to state this in sufficient cases to render it of value. But in the following table the patients ages are arranged in decades acccording to their age when I was first consulted.

60 Cases arranged in Decades according to Age when first seen by me.

Under 10 years	1 case.
Between 10 and 20 years	0 cases.
,, 20 ,, 30 ,, ...	10 ,,
,, 30 ,, 40 ,, ...	22 ,,
,, 40 ,, 50 ,, ...	17 ,,
,, 50 ,, 60 ,, ...	4 ,,
,, 60 ,, 70 ,, ...	3 ,,
,, 70 ,, 80 ,, ...	2 ,,
Not stated...	1 case.
Total	60 cases.

It so happens that of the 22 patients in the fourth decade and of the 17 in the fifth the majority of them were of an age which falls very early in their respective decades. Nearly all the patients had had the disease some years when I first saw them, so we may safely say that it is a disease which rarely comes on under 20 years of age and usually first shows itself between the ages of 20 and 30 years and is only infrequently found to begin over the age of 45 years. These figures quite accord with those of other authors. This striking incidence in early adult life renders it necessary to examine the older cases in detail.

CASE 58.—The patient, a woman, aged 76 years, was taken suddenly ill one morning. When I saw her with Dr. J. A. Andrews of Hampstead at 7 P.M. on the same day she obviously had acute general peritonitis and was dying. She died a few hours later. At midday she passed a mass of mucous casts which we saw. Dr. Andrews had not attended her previously. She was too ill to answer questions. But it appeared almost certain from the sudden onset and the short duration of the general peritonitis that it was due to perforation of a viscus and regarding the case by the light of others to be mentioned presently a probable diagnosis is that she had a growth of the bowel with perforation of a distension ulcer.

CASE 11.—The patient, a woman, aged 73 years, was seen with Mr. C. F. Hardie. Four years ago she had had a discharge of pus from the rectum. Since then she had had much pain in the pelvis, constipation, indigestion, and the passage of membranes. There were much matting and thickening in the pelvis and it seemed clear that she had had outside the bowel some chronic inflammatory trouble which had set up the membranous colitis.

CASE 10.—The patient, a man, aged 66 years, was seen at Clapham with Mr. A. Matcham. The motions were fluid; they contained blood and many membranous casts of the intestine exactly resembling in all respects those passed by patients with ordinary membranous colitis. A tumour could be felt in the region of the sigmoid flexure and the patient passed from the rectum a fleshy mass of the size of a horse chestnut

which on examination turned out to be a piece of carcinomatous growth.

CASE 1.—The patient, a man, aged 62 years, was seen with Dr. F. K. Holman of Hampstead. He came from Barbados. We could get very little history of his illness. He had been laid up in Barbados and came home to try to restore his health. When seen here he was very pigmented (but this was probably due to the arsenic which he had taken for a long while) and very wasted but, judging from what he told us, the restriction of diet to only a little milk had been carried to the point of semi-starvation. He passed great membranous casts from the bowel with much blood. He died apparently from sheer exhaustion after he had been in England a short time. A post-mortem examination was held. The colon, and especially the ascending and transverse colon, were very distended, being of about the circumference of a man's forearm. The walls were thinned and the mucous membrane looked healthy except for one or two little patches of congestion here and there. There were no ulcers. Except for a gummatous deposit in each epididymis the whole of the rest of the body appeared to be healthy. What his illness in Barbados was and how far starvation and arsenical poisoning helped to kill him it is difficult to say. He certainly had not got Addison's disease.

CASE 23.—A woman, aged 62 years, was seen with Mr. M. S. F. Monier-Williams of Kensington. She was enormously fat and had been much constipated for many years and had had abdominal pain for the past six months. The abdomen was tender, she suffered from nausea and sickness, and whenever the bowels were opened she passed large quantities of membrane and blood. She had had pelvic cellulitis but was not, and never had been, particularly neurotic. For about six weeks she was very dangerously ill, often having severe attacks of cardiac distress with a rapid, feeble, irregular pulse. Often in these attacks it was thought she would die; they were regarded as probably indicating fatty degeneration of the heart. At times a minute trace of albumin was found. She was kept in bed for three months, had small quantities of milk and farinaceous food, and took castor oil regularly every morning at 5 A.M. She gradually improved in all respects and, now more than four years after, she keeps well and is able to travel with comfort. The passage of membrane gradually got less but even now some is occasionally passed. She has continued to take castor oil regularly.

CASE 25.—The patient was a woman, aged 57 years. This was a mild case and although she was often constipated she attributed the illness to an attack of diarrhœa contracted in Switzerland a year previously. I have written but have failed to trace her. She probably got well, for she was improving when I saw her.

CASE 37.—The patient was a woman, aged 57 years, under the care of Mr. Harcourt Coates of Salisbury. This was not a severe case. She had been operated on for piles and had well-compensated mitral constriction and regurgitation. Subsequently it became clear that she had malignant disease of the bowel and from this she died.

CASE 43.—The patient was a woman, aged 50 years, under the care of Dr. J. P. Williams-Freeman. This was a severe typical case and was known to have had the disease for at least 20 years.

CASE 55.—The patient was a woman, aged 55 years, under the care of Dr. Theodore D. Acland and Mr. H. H. Clutton. She said she had been told that an abscess in the neighbourhood of the appendix burst into the bowel three months previously and now thickening could be felt in that region. Since then she had suffered from the passage of membrane and blood. Dr. Acland told me that Mr. Clutton thought she had had appendicitis but Dr. Acland was not quite sure whether the trouble might not have been caused by gallstones but anyhow she had had an abscess which had burst into the bowel and this had induced the colitis.

Of these nine cases, each 50 years of age or older when first seen, one (No. 43) was only 50 years old and was known to have had the disease for at least 20 years, so that this case hardly calls for consideration now, and of the remaining eight only one (No. 25) was a mild uncomplicated case and she said that the disease was definitely set up by an attack of diarrhœa contracted in Switzerland. My figures appear, therefore, to show that if the disease appears late in life it is unusual in some association. Case 1 was a man who died. The membranous colitis was probably dependent upon some malady contracted in Barbados. Case 23 was very fat and had many severe, almost fatal, cardiac attacks and in Cases 11 and 55 the disease followed the bursting of an abscess into the bowel. Cases 10 and 37 certainly had malignant disease of the bowel and Case 58 probably had. It is interesting, however, to notice that only two of these cases which were exceptional in their associations were men, so that even among the complicated cases the greater frequency of membranous colitis in women holds.

What has just been said leads to the discussion of the prognosis. Eight of the 60 cases are known to have been fatal and I think very few others have died, for whenever possible I have recently written to their medical attendants and I have heard that all those about whom I have written are still alive. Of the eight fatal cases, Case 58 (perforative peritonitis), Cases 10 and 37 (growth of bowel), and Case 1 (man from Barbados) have been described. Case 2 is fully recorded in the Transactions of the Clinical Society; she died from acute peritonitis, probably due to rupture of an abscess in the pelvis. Case 33, under the care of Dr. Snape and Dr. Harnett, was a woman, aged 45 years, who before I saw her had had her breast removed by Mr. J. Bland-Sutton for carcinoma; the growth reappeared in the scar and then many glands in the neck became affected, breathing became difficult, and she died. Case 53, a woman, aged 30 years, seen at Streatham with Dr. D. Donald, was under treatment doing well with regard to her membranous colitis but she became insane and died. Case 17 was a man, aged 40 years, seen with Mr. Monier-Williams. He gave an eight months' history of dyspepsia; many medical men had said that he was a neurotic dyspeptic; for six months he had had severe abdominal pain and had passed tubular casts often several inches long and he had also lost much blood from the bowel. He was much wasted, but the fact that his pain, which was very severe, was always in the same spot made us suspicious that he had a growth and that his constipation and membranous colitis were due to this. On a second examination a tumour was detected. Sir Alfred Fripp was consulted, the abdomen was opened, a large mass of growth matting the bowel was found at the posterior part of the abdomen, and as obviously nothing could be done to relieve him the wound was closed without spending time trying to find out in which organ the growth originated; the patient died shortly after. Unless membranous colitis be regarded as the cause of death in Case 1, and most probably it was not, we thus see that in not one of 60 cases was the disease itself fatal, and this experience that membranous colitis of itself hardly if ever kills is amply confirmed by various writers. Especial attention should be directed to Cases 17, 37, and 10, which have been described, for in all there was malignant disease implicating the bowel. Many years ago I saw a necropsy made on a hospital patient of Dr. P. H. Pye-Smith,[1] who had passed membranes during life and at death malignant disease of the bowel was found. It will be recollected that it was probably present in Case 58. These cases suffice to show that whenever a patient is severely ill with membranous colitis a careful endeavour should always be made to find out whether he has malignant or some other organic disease in connexion with the bowel. Case 38 is of interest in this relation. She was a woman, aged 42 years, sent to me by Mr. H. Blatherwick in 1903. She had passed membranous casts and blood for four years. There was no evidence of growth per rectum and the vagina was examined but a little more than a year later she went into St. Bartholomew's Hospital under the care of Dr. J. Calvert and was then found to have a growth in the rectum.

As membranous colitis, therefore, very rarely, if ever, causes death let us see what becomes of the cases. In considering this we may eliminate the eight cases 1, 2, 10, 17, 33, 37, 53, and 58, which are known to have been fatal, for we have already seen that their death was not due to their membranous colitis, and also we need not consider No. 38, for she cannot live long as she has carcinoma of the rectum. That leaves 51 cases to consider. Eight of these could not be traced but at least six of these eight were so mild that probably they got quite well. Of the remaining 43 cases 21 got well, 16 did not, and six improved much. Some of these six became so considerably better that they might almost be said to have recovered. We may therefore say that if we exclude the patients who die (and they die from some other malady than their membranous colitis) rather over 50 per cent. get well, some 10 or 12 per cent. are

[1] Pye-Smith: Transactions of the Pathological Society, vol. xlvii., p. 52.

TABLE I.—*16 Cases that, although not Fatal, did not Recover.*

No.	Age when first seen (years.)	Sex.	Remarks.
3	36	F.	Severe case. Had had membranous colitis for 15 years. Sent by Dr. A. E. Taylor. Mr. C. H. Golding-Bird did a right-sided colotomy. For nearly three years the patient was so much better that we began to hope she was cured, but she relapsed. (Transactions of the Clinical Society, vol. xxxii., p. 183, and vol. xxxv., p. 164.)
11	73	F.	Seen with Mr. C. F. Hardie. Four years ago there was a discharge of pus from the rectum and now there are much thickening and matting in the pelvis. She has much pain there and passes membranes by the rectum.
16	34	F.	Very neurotic; constipation; passes blood. There is much tenderness over all the large bowel; she was operated on for piles; there was no improvement to the colitis. Prolonged high-frequency treatment was administered but there was no improvement. She could not visit Plombières. Dr. G. B. Batten writes to say that she is no better.
19	40	F.	Symptoms of appendicitis with membranous colitis for many years; no improvement from removal of the appendix. Last year tried Plombières; no better; then tried high frequency. Dr. Batten writes to say that she is no better.
22	48	F.	Severe; passed blood and much "sand." Various aperients, Plombières, and high frequency were all tried. Mr. C. J. Jacomb-Hood writes to say that there is no improvement.
27	38	F.	Under the care of Mr. Collins. She had had the disease at least four years. There were severe pain and tenderness; she was very neurotic. There were wasting, weakness, and a poor appetite. Would not try Plombières or high frequency. There was no improvement with other treatment.
28	38	F.	Excessively severe case. The patient had had the disease since childhood and had been a bedridden invalid many years. She was thin and weak. There were general enteroptosis, much abdominal pain, and tenderness; piles were troublesome. The patient passed enormous masses of membranes. There was severe dysmenorrhœa with membranes from the uterus which was displaced; there was much mucus in the urine; also many referred pains and extensive areas of hyperæsthesia and hyperalgesia. She was a complete valetudinarian as regards food. Dr. H. Howard Murphy writes to say that there is no improvement.
29	29	F.	Has had albuminuria ever since diphtheria 18 years ago. The patient had had membranous colitis for more than two years; she passed blood, was emaciated, and had much pain and tenderness. Castor oil was ordered. Dr. C. P. Handson writes to say that there is no improvement.
	4	F.	For two years the patient had constantly passed huge casts; there were no blood, no pain, and no tenderness. I saw her on and off with Dr. Newton for two years but in spite of all sorts of drugs and prolonged high frequency nothing diminished the membrane, the child remained pale and languid and increased very slowly in weight.
42	24	F.	Not very severe case; there was much undigested food in the fæces. Castor oil and rest in bed were ordered and the patient got better. The membranes disappeared but Dr. Clemon writes to say that she relapsed.
43		F.	Confirmed invalid. The patient had seen obstetric physicians for "ovarian inflammation" on and off for 20 years; during all this time she had passed blood and casts from the bowel; also sand. Weir-Mitchell treatment, lavage, castor oil, high-frequency treatment, and dieting all did no good; there were much pain and tenderness. Colotomy was discussed with Dr. Williams-Freeman and decided against.
4	40	F.	Twelve years' history. There was much pain and the sigmoid and descending colon could be felt to be thick. There was much membrane from the bowel; also very severe membranous dysmenorrhœa. The uterus was curetted. There was severe mental depression at times and the patient was very neurotic. There was some general enteroptosis and the right kidney was freely moveable. Mr. S. Backwell Fenn writes to say that there is no improvement.
46	37	F.	Five years before the patient was seen an abscess was said to have burst into the bowel. Since then she has passed much membrane and blood. There were a thick sigmoid flexure and dysmenorrhœa; she was despondent and hypochondriacal. Dr. A. Salter writes to say that there is no improvement.

TABLE I. (*continued*).—*16 Cases that, although not Fatal, did not Recover.*

No.	Age when first seen (years).	Sex.	Remarks.
46	40	F.	Very neurotic; severe case; refused treatment.
59	45	F.	Double ovariotomy at 26 years of age. She had had the appendix removed and both kidneys stitched (they were undoubtedly moveable) and the abdomen opened on one other occasion. The patient delighted in operations. She had been a chronic invalid for years. There were much blood and membrane and sand. The patient was very thin and very neurotic. She was under the care of Mr. C. L. H. Tripp.
7	24	F.	Constipated all her life. The patient had passed much membrane for four years. There was great tenderness along the colon. She had many neurotic symptoms. She was seen with Dr. Dakin and Dr. W. Ayton Goatling. There was prolapse of the uterus. Six years after she was first seen Dr. Goatling wrote to say that she was better for a time and then got ill again. She was once well as long as six months. She once got better while taking von Noorden diet. She had had catarrhal jaundice. On the whole, the patient is in much the same condition.

TABLE II.—*Six Cases Much Improved.*

No.	Age when first seen (years).	Sex.	Remarks.
12	32	F.	There were abdominal pain and tenderness; the patient had a thickened sigmoid flexure and passed casts. She was not neurotic but was hard working. Plombières did her much good. Mr. H. C. L. Morris says that when he heard of her two years after she was much better.
13	25	F.	This patient was very neurotic and had quiescent phthisis at one apex. She had had membranous colitis since the age of 17 years. Blood came from the bowel and she had a thickened sigmoid flexure. There were pain and tenderness. Dr. C. P. Handson wrote that although the patient was dyspeptic and constipated she had had no membranous colitis for a long while.
14	Over 50.	F.	This patient was the mother of the above (Case 13). She had had membranous colitis for 35 years. She had given up medical men and kept in very fair health and was able to get about. She had for many years had daily rectal injections of one and a half pints of hot water.
32	23	F.	Not a severe case but the patient was very wasted and probably had phthisis. It was very difficult to get her to continue treatment. Dr. F. E. Gibbons wrote that she was decidedly better, although far from well.
47	42	F.	This patient passed very large casts; there was a mass feeling like matting around the appendix. She received no benefit from Plombières. She was ordered to take castor oil. 15 months later she was much better in all respects but still passed membrane.
48	40	M.	Not a very severe case but got attacks of severe abdominal pain. The patient was put on castor oil. Dr. Lipscomb wrote that the patient was sometimes quite well but was still liable to attacks.

much improved, and 37 per cent. do not get well. Probably this percentage of cases that did not improve is higher than the figures of health resorts, as Plombières, devoted to the care of the malady, would show, for all my patients have been ill enough to desire a second opinion, some were too ill to travel, and some had had the disease many years, even 20, and therefore recovery was hardly to be expected. Another reason that makes it difficult to compare these results with those published is that the terminology is different; writers would often no doubt be divided as to whether a case should be regarded as cured or improved. To show the difficulty of classification I need only mention that von Noorden had had "complete" success in 78 per cent. of his cases but permanent success in only 50 per cent. All my cases that I have included as "recovered" were to

all intents and purposes quite well when last I heard of them, always a year and often much longer after they had been first seen. Tables I., II., and III. contain the 43 cases from which the prognosis has been deduced.

It will be noticed that the list of the cases which although not fatal did not recover is made up entirely of women, and I think that even allowing for the smaller number of men than women affected there is no doubt that the disease is as a rule more severe in women than in men. Age does not appear to influence the severity of the disease but it is of importance to observe that many of these cases that did not recover had had the disease for a long while when first seen—No. 3 for 15 years, No. 19 for many years, No. 28 since childhood (now 38 years old), No. 36 for two years (although only four years old), No. 43 for 20 years, No. 45 for 12 years, No. 46 for five years, and No. 27 for four years; and although my notes do not state the duration in all the other cases I remember that in many of them the disease had lasted a very long while. Then it is several years since some of these cases were first seen and yet the disease still exists, for I have heard of them all recently. Even No. 29, who had had it only two years when first seen four years ago, now has had it six years. Nearly all the cases that recovered completely had had the disease a comparatively short time, but No. 50 shows that the disease may get well even after it has lasted for 14 years. No. 14 was very interesting for she had the disease for 35 years, but although never well she managed to get about, and No. 13, the daughter of No. 14, got very much better although she had had it many years. But such cases are quite exceptional. There is no doubt that, other things being equal, the cases which have lasted a long time are much less likely to recover than those that have lasted a short time and this forms a very strong argument in favour of early recognition and treatment. Few of the cases that recover are severely ill but several of the cases that did not improve belong to the hopeless group of neurotic bed-ridden invalids dwelling on their illness, interested in their motions, magnifying their aches and pains, and apparently almost loving their complaint. We have already seen that the disease is almost confined to adults. Only one of my 60 cases was a child and she (Case 36) was four years old when first seen. She had no pain or tenderness and never passed blood, but for two years before I first saw her she passed huge tubular casts from the bowels every time they were opened and she was constipated. She was pale and languid and increased very slowly in weight, otherwise she appeared well. She had the best possible surroundings but neither castor oil nor high frequency treatment nor any particular form of dietary appeared to better the disease. Von Noorden met with four children among his 76 cases.

Let us now turn to the symptoms of the disease. Whenever I had an opportunity I examined the motions myself and in nearly all the cases in which I had not the opportunity some other medical man had inspected them. They have been so often described that I need not do so again. It will suffice to remark that if the mucus is passed soon after its formation it may not have had time to form a membrane or shreds but appears as glairy masses like white of egg. Histologically the membranes are structureless and imbedded in them are various intestinal débris such as epithelial cells, leucocytes, micro-organisms, fragments of fæces, pieces of undigested food, and sometimes blood cells. The fæcal matter often consists of hard masses of varying shapes, for nearly all the patients are constipated but in some diarrhœa alternates with constipation and then a motion may consist entirely of liquid fæces, mucus, membranes, and blood. In such a case the smell is often very foul. De Langenhagen states that in a few instances the fæces have at times been very pale. This I too have noticed. I have seen intestinal sand passed by several patients and from the descriptions some others have given me I should think that they also had passed it. It is impossible to say in what proportion of cases it is present for it is frequently not looked for, but judging by what I have seen I should say it is only passed by patients affected with a severe degree of the disease. Two chronic cases—viz., Cases 22 and 59—seem to pass it very often and one of these women describes herself as a gravel pit; this is a euphemism but the amount passed in 24 hours will when dried fill three or four tea-spoons. Most frequently the sand passed by these patients is of a red colour, rather duller than the common deposit of uric acid in the urine; sometimes it is white or light brown with dark patches intermingled. My patients teach nothing about it which is not already known

TABLE III.—*21 Cases that Recovered.*

No.	Age when first seen (years).	Sex.	Remarks.
8	40	M.	Mild case. Dr. H. Melvill Green never heard of recurrence.
9	35	M.	Severe case. Dr. T. Slater Jones said that the patient was better and doing his work.
15	36	F.	Very wasted; neurotic. The patient got quite well with sulphate of magnesia to keep the bowels regular.
18	40	F.	The patient had had pelvis cellulitis. Blood and membrane passed from the rectum; the sigmoid flexure was thick; and the right kidney floated. She was wasted. She got quite well when high-frequency currents were applied.
20	42	M.	Very neurotic; mild case. The appendix had been removed without benefit, for the patient still passed blood and membrane. His colitis got quite well.
21	4	F.	Severe case; passed membranes and blood. Seen with Mr. E. Hosking. The patient had had many attacks of appendicitis and a lump could be felt in the region of the appendix. Sir Victor Horsley removed the appendix and the membranous colitis recovered.
23	62	F.	Very severe case; not neurotic. The patient was treated with castor oil and now four years since I first saw her with Mr. Monier-Williams is still taking it from time to time. She still occasionally passes some membrane but is otherwise perfectly well and up and about although previously confined to bed for many weeks.
24	36	F.	Very neurotic. Dr. H. Sydney writes: "She has been treated for years for nearly every conceivable abdominal disorder." The patient was suffering from severe colitis. There was much tenderness over the cæcum and the appendix but there was no lump; no operation was performed. She could not take castor oil but got quite well on a mercurial purge and Contrexéville water to drink; this was given because she had so much visible uric acid in the urine.
25	37	F.	This was a moderate case and got well by keeping the bowels regularly open with simple aperients.
26	31	F.	Very neurotic; a typical case of average severity. Dr. Howard Marshall wrote to say that she got quite well.
30	37	F.	This patient had been treated by many medical men; had restricted her diet so that she was much wasted. It was an average case; there were much blood and membrane. The patient was fed up, the bowels were kept open with castor oil, and she gradually got quite well.
34	28	F.	Very neurotic. It was thought that the patient had spinal disease but Mr. C. W. Mansell Moullin could find no organic trouble. She was always rushing about. She made no real improvement till she began to lie up. Dr. W. R. Walters wrote to say that she is now well.
35	25	F.	A mild case treated with castor oil. Mr. E. E. B. Landon wrote to say that the patient got quite well.
40	35	M.	A member of the medical profession. He was very thin when first seen. Castor oil did not suit him. He took to cream in large quantities; this acted as a gentle aperient and a food and he got quite well.
41	35	F.	The appendix was removed 14 months before I saw this patient; it was said to have been healthy but to have had adhesions round it. The removal of it, Dr. Montague Dixon tells me, did not improve the colitis. Castor oil was administered and recovery ensued.
44	26	F.	A mild case. The trouble was attributed to a blow on the abdomen. She was sent by Dr. J. C. Sharp and got quite well with castor oil.
49	48	F.	This was a severe case. The patient had passed membranes for three years. Twice she had been made much worse by confinements; there was much wasting. She was fed up and put on castor oil for some time, with no improvement, but ultimately she got quite well. She was seen with Dr. A. C. Ingle.
50	35	F.	This was a mild case but the patient had had the disease for 14 years. She was put on castor oil. Dr. Leslie C. Thorne Thorne wrote to say that she got quite well.
51	37	F.	This patient was very neurotic and wasted. She was put to bed and given castor oil. Dr. W. Warburton Wingate wrote: "Able to do her work but when constipated passes mucus."
57	40	F.	This patient was sent by Dr. S. Jervois Aarons. It was an averagely severe case. She had membranous dysmenorrhœa. She was put upon castor oil and went to Plombières. The patient got well.
39	23	F.	A severe case and very intractable for a long while but ultimately on calomel, as the patient could not take castor oil, she got better. Dr. A. F. Cleaver wrote that she was better than for some time before her illness and that she was working very energetically.

and well described by Duckworth and Garrod.[2] In two of my cases the sand has been analysed. In one—viz., No. 22, two specimens were examined by Mr. J. H. Ryffel who kindly gave me the following results (Table IV.):—

TABLE IV.—*Air-Dried Substances in both Specimens.*

—	First specimen.	Second specimen.
Water	16·44 per cent.	13·93 per cent.
Organic matter ...	33·60 ,,	33·56 ,,
Inorganic matter ...	46·96 ,,	52·51 ,,
Inorganic residue.		
CaO	59·84 ,,	58·42 ,,
P_2O_5	33·37 ,,	28·9 ,,
CO_2	—	8·33 ,,
Soluble matter ...	3·1 ,,	—

In these specimens the sand was chiefly of the white or pale brown variety, with some of the darker sand mixed. Mr. Ryffel writes: "In the second specimen I separated as much as possible from matter different from the sand (especially particles of white sand) by stirring with water, with the result that the residue after ignition comes out higher than in the first case, in which I used the material as you sent it to me. Also in the second specimen, fearing that the calcium oxalate present would have been reduced to calcium oxide by ignition I treated with ammonium carbonate before analysing to convert oxide to carbonate, with the result that the percentage of CO_2 is much increased. As to the white sand, I find it contains calcium phosphate and oxalate, as does the dark material, but also a large quantity of organic material which does not contain nitrogen, therefore cannot be proteid or uric acid, is not a carbohydrate, in fact, I believe it to be cholalic acid." Mr. Jacomb-Hood mentions in a letter to me that he found some algæ in some specimens of the motion he examined microscopically and I hope he will publish an account of them. Dr. P. J. Cammidge kindly analysed the sand from Case 59. His report is: "Microscopically it consists of brown to yellow granules of varying size and shape, some translucent or semi-translucent, others opaque, no crystalline structure, slowly soluble in acetic acid with evolution of gas and leaving a structureless basis of similar shape to the original granule which is partly soluble in sodium hydrate solution. On combustion a white residue is left which contains some black particles; the former is soluble with effervescence in hydrochloric acid, the latter are insoluble. Microscopically the residue has the same shape as the original granules. Water, 25·50 per cent.; organic matter, 41·12 per cent.; and inorganic matter, 34·38 per cent. The latter contains: calcium oxide, 58·27 per cent.; phosphorus pentoxide, 37·31 per cent.; and carbon dioxide, 3·31 per cent. The residue contains magnesium, iron, and perhaps silica. There was a fair amount of urobilin." We see, therefore, that in these two, as in other recorded cases, calcium phosphate is the chief constituent. It is interesting to notice that Duckworth and Garrod, like Dr. Cammidge, found traces of magnesium and iron and that urobilin was present. Mr. Ryffel found calcium oxalate and a minute trace of this body was present in a specimen of true intestinal sand described by Dr. W. Ainslie Hollis.[3] The amount of organic matter in the sand may be as high as 72 per cent. or as low as 22 per cent. and our two cases contained a very ordinary amount. We are in the dark as to why sand consisting chiefly of calcium phosphate should often be passed in this disease but it is probably excreted by the large intestine and as the large amount of mucus passed is also found there we have in severe cases two abnormal secretory phenomena of the mucous membrane of the colon.

My cases showed very well that in severe instances there is much abdominal pain. This is of two kinds: there may be a dull constant pain; frequently this is not striking but there often are in addition paroxysms of very severe pain felt chiefly in the centre of the abdomen and it may be so severe as to cause the patient to writhe in agony. These paroxysms are often associated with a desire to open the bowels and are relieved when they are opened, although the motion may consist of nothing but membrane or membrane and blood. I have known a patient faint in the water-closet after half an hour of such pain and I have seen a patient who on account of the pain took a morphine injection before going to stool; as the desire to open the bowels may occur three or four times a day these paroxysms of pain may almost run into one another. On the other hand, in mild cases there may be little or no pain but it is remarkable that the child who passed such quantities of membrane had no pain, although she can hardly be described as a mild case. Usually there is some abdominal tenderness and it is most marked over the course of the whole or part of the colon, and very frequently the sigmoid and even the descending colon feel thickened, rolling about under the hand like a sausage. This must, I think, be due to contraction of the bowel, for neither in the post-mortem examinations that have been recorded nor in those that I have seen is there any evidence that the formation of these membranes is associated with any thickening of the wall of the gut. It is exceptional to find the abdomen either particularly distended or particularly retracted.

By far the most important fact in connexion with the bowels is that they are nearly always constipated. It is true that many people who suffer from constipation pass some membrane usually rolled up into little white masses, but with them this is a temporary affair and passes away directly the constipation is overcome, but there are a few cases in which it is difficult to be sure whether they should be regarded as suffering from simple constipation or from membranous colitis, but throughout this paper I am considering only such persons as those in whom the passage of membrane is sufficiently striking and constant to render them examples of the association of symptoms which we call membranous colitis; nearly all such persons, I repeat, are severely constipated. A very few complain of diarrhœa; in some of these it will be found that although the bowels are opened often yet really the sufferer is constipated; in others the disease originated in dysentery or some other malady of which diarrhœa is a prominent symptom. Most sufferers from membranous colitis have a furred tongue and the fur is often very white. Unless the disease is mild they suffer from flatulence and anorexia and this in an extreme case is so striking that the appetite is so poor that but little is eaten and consequently such patients are usually thin and weak. In a bad case first one and then another article of food is discarded until the patient becomes a hopeless valetudinarian. Some authors, e.g., Langenhagen, have been much struck with the frequent association of enteroptosis and membranous colitis. No doubt in severe cases with general wasting the abdomina muscles become weak and therefore the proper abdominal support being lost it is likely that the viscera would get out of position, especially as the frequent straining at stool would bring oft-repeated pressure to bear on them. Then, too, both enteroptosis and membranous colitis are chiefly found in women so we should expect them sometimes to overlap. Among my series of cases general enteroptosis was noted three times and in addition the right kidney was moveable five times. It has been already seen that a certain number of my cases probably owed their membranous colitis to organic disease—e.g., malignant disease, appendicitis—and with these we should hardly expect any particular association between membranous colitis and enteroptosis; then, too, although the abdomen of every one of my patients was examined, yet in many I only had an opportunity of examining once, therefore some of the lesser degrees of enteroptosis may have been overlooked by me. On the whole, judging by my own figures we may say that there is an association between enteroptosis and membranous colitis, but it is not as frequent as some writers have suggested.

An association on which I think much more stress should be laid is that between membranous colitis and disorder of the female generative organs. Among my 51 female patients I have notes of some disorder of the generative organs (Table V.).

Thus 21 out of 51 female patients had some disorder of the organs of generation. That is about 41 per cent. but probably the number is really higher, for unless there were symptoms pointing to disorder of the pelvic viscera these organs were often not specially examined, as many of the patients were unmarried. Langenhagen draws attention to the same point and his experience is the same as that derived

[2] A Contribution to the Study of Intestinal Sand, with Notes of a case in which it was passed. Transactions of the Royal Medical and Chirurgical Society, vol. lxxxiv., p. 389.

[3] Proceedings of the Brighton and Sussex Medico-Chirurgical Society, 1901-02, p. 75.

TABLE V.—*Cases with Some Disorder of the Female Generative Organs.*

No.	Age (years).	Remarks.
2	30	Small pelvic tumour; Dr. Galabin was doubtful of its nature.
3	36	There were pain and tenderness in the right side, the seat of which was thought by some to be in the right ovary.
7	24	Prolapse of the uterus.
11	73	There were a good deal of matting and thickening in the pelvis and a history of membranous dysmenorrhœa.
18	40	The patient had had several attacks of pelvic cellulitis.
21	40	Severe menorrhagia.
23	62	The patient had had pelvic cellulitis.
28	38	The patient had had severe membranous dysmenorrhœa for years.
31	—	The patient had had endometritis.
33	45	The patient had had endometritis.
38	42	The uterus was retroflexed.
41	35	The patient had had pelvic cellulitis.
43	50	The patient had been attending various obstetric physicians on and off for 20 years. The chief trouble had been ovarian inflammation.
45	40	The patient had had membranous dysmenorrhœa.
48	37	The patient had had dysmenorrhœa.
50	35	The patient had had dysmenorrhœa.
53	30	The patient had had membranous dysmenorrhœa.
54	40	The patient had had menorrhagia.
56	32	The patient had had a fibroid of the uterus.
57	40	The patient had had membranous dysmenorrhœa.
59	45	Double ovariotomy was performed on this patient at the age of 26 years.

from the study of this series—namely, that the most diverse disorders of the female pelvic viscera may be associated with membranous colitis. It is especially to be observed that five of the patients had membranous dysmenorrhœa; other authors have noticed this strange association which will have to be borne in mind in trying to discover the pathological explanation of the disease. The frequent occurrence of pelvic disease with membranous colitis does not appear to be sufficiently known, for no mention of it is made in the article in Nothnagel's "System." The worst case of membranous colitis I have ever seen (No. 28) not only had membranous dysmenorrhœa but she often passed large amounts of mucus in the urine; at times her rectum was prolapsed.

We must next consider those cases in which membranous colitis was associated with disease of the appendix. (Table VI.)

There are one or two other cases among my series in which it may have been that the appendix was diseased, but it was not sufficiently certain for them to be included in Table VI., and there is no doubt that appendicitis is more common among those who have membranous colitis than among those who have not. The cases fall into two groups. Firstly, those in which appendicitis probably induces membranous colitis. Earlier in this paper evidence has been brought forward to show that organic disease within the abdomen—e.g., growth, inflammation—may cause membranous colitis. Cases 21 and 55 are, I believe, instances in which appendicitis did this. The surgeon in charge of Case 55 thought it unwise to operate and I did not think that when I saw her any operation would be feasible; operation in Case 21 led to a cure of the membranous colitis, but it will be noticed that here the attacks of appendicitis were striking and accompanied by pyrexia. Secondly, there are those cases in which the symptoms of appendicitis are not very prominent and then I believe the appendicitis is really only the affection of the cæcum and appendix by the same membranous disease as implicates the rest of the large bowel; such cases will not be benefited by removal of the appendix. No benefit followed in Cases 19, 20, 41, and 45. On the other hand, Cases 34 and 47 improved very much without operation on treatment directed to the colitis, and Cases 20 and 41, for whom removal of the appendix did no good, subsequently got well by treatment directed to the colitis. The same is true of other diseases of the large intestine, e.g., if in the chronic intestinal ulceration known as chronic dysentery or

TABLE VI.—*Cases associated with Disease of the Appendix.*

No.	Sex.	Age (years).	Remarks.
19	F.	40	Membranous colitis with symptoms of appendicitis for many years. Under Dr. Goodhart's advice the appendix was removed. There was no improvement either by Plombières or any subsequent treatment.
20	M.	42	This patient was a very neurotic hypochondriacal man with symptoms of appendicitis with those of mucous colitis. Sir F. Treves had removed the appendix without benefit.
21	F.	40	This patient had many attacks of appendicitis with pyrexia. When seen she had a large lump in the region of the appendix and membranous colitis. Removal of the appendix was suggested. Sir Victor Horsley removed it and the adhesions around; from this time there were great improvement in health and gradually cessation of membranous colitis.
24	F.	36	This patient had membranous colitis associated with sufficient pain and tenderness over the appendix to suggest appendicitis, but as it was regarded as only part of the membranous colitis no operation was performed; she got quite well by treatment of the colitis.
41	F.	35	This patient had the appendix removed 14 months before I saw her; it was healthy but some adhesions in its neighbourhood were removed; she had had pelvic cellulitis. No benefit followed the removal of the appendix but she got well by treatment with castor oil.
47	F.	42	Typical membranous colitis. There was an obscure mass in the region of the appendix. No operation was performed. Plombières did her no good. There was great improvement on castor oil.
55	F.	54	An abscess burst into the bowel; in the opinion of those who attended her it was very likely due to disease of the appendix; since then she had passed membranes.
59	F.	45	This was a very severe case of membranous colitis; the appendix was removed 18 months before I saw her. No benefit followed.

ulcerative colitis the appendix is affected and hence symptoms pointing to appendicitis arise no benefit will follow removal of the appendix. Therefore in every case of membranous colitis associated with appendicitis it is our duty to try to discover whether the appendicitis is causing the membranous colitis, and then probably it is always severe appendicitis and then operation is indicated, or whether the appendicitis is merely part of the membranous colitis and then operation is not needed, but the colitis itself should be treated. The question of the association of appendicitis with membranous colitis has given rise to much divergence of opinion, especially in France, but these cases undoubtedly show that such an association exists. Several of my cases have had piles and in some the piles have been operated upon but no benefit ever followed, nor is this surprising, for both the piles and the membranous colitis are probably due to the same cause—viz., constipation. Two of the 60 cases had previously had catarrhal jaundice and one case one and a half years before the onset of the membranous colitis had symptoms strongly pointing to the presence of a gastric ulcer.

All writers are so agreed that membranous colitis occurs, as Nothnagel says, in nervous, neurasthenic, hypochondriacal, hysterical individuals that there is no need to go into this in detail. Certainly my experience bears this out fully. Not all cases are instances in point but the greater number are, and some of the most neurotic people we meet with are the sufferers from severe membranous colitis. A bad incurable case lies in bed suffering from many pains and symptoms for which no organic cause can be found and she gives the impression that she is really attached to her ailment. No treatment relieves her troubles and she often protests that drugs produce effects quite contrary to those usually seen. One patient died in an asylum and another was on the borderland of insanity.

While it is undoubtedly true that there may be an excess of mucus secreted by the intestine when it is inflamed, yet, judging from what I have seen at necropsies in the few fatal cases which have been examined, from patients who

have been operated upon, and from published descriptions, there is no doubt that Nothnagel is correct in saying: "The condition may exist without any structural evidence of enteritis. In that case it is really not an inflammatory process but one that may be termed simply colica mucosa or, as Ewald aptly suggests, myxoneurosis." Nothnagel, like many others, regards the disease as primarily a nervous disorder with an excessive secretion of mucus from the colon as one of its symptoms. The chief arguments in favour of this view are that the disease is especially common in women and is frequently associated with severe and various nervous symptoms. Possibly the fact that it may be associated with membranous dysmenorrhœa is in favour, too, of this view but it must be remembered that it is more often associated with other diseases of the female generative organs—e.g., pelvic cellulitis—which could hardly have a nervous origin. But there are some strong reasons for regarding the disease as a local disorder of the colon; firstly, it may undoubtedly be associated with definite organic disease of the bowel. Three of our cases had malignant disease of the gut (Cases 10, 17, and 37), one probably had (Case 58), and a similar case recorded by Dr. Pye-Smith has been mentioned. In two (Cases 11 and 55) an abscess burst into the bowel and Case 21 was apparently due to appendicitis, and when we bear in mind the close anatomical association between the upper part of the rectum and the rest of the pelvic organs it may be that in some cases at least in which these are diseased the membranous colitis is directly due to such disease. Secondly, this form of colitis is almost always associated with constipation and in a few cases it appears directly to follow some diarrhœal disorder; no doubt it is an argument against regarding constipation as the cause that although constipation is so frequent membranous colitis is not common, but a very strong reason for regarding the constipation as causative is that all successful modes of treatment are local and have for their object keeping the large bowel empty. Thirdly—but this is not a strong reason—in some cases there are two abnormal secretory results—viz., an excess of mucus and much calcium phosphate in the form of sand and perhaps it is a little more likely that these would both follow a local cause than a functional disease of the nervous system.

It would be much against regarding the disease as local if it could be shown that when it follows local disease no nervous symptoms are present, but this has not been done. Case 17, in which the disease was really due to malignant disease of the abdomen, had been regarded by some distinguished physicians who saw him as a neurotic dyspeptic; and then again when due to organic disease this may kill (e.g., growth) or be relieved (e.g., appendicitis) before there is time for nervous symptoms to develop. Certainly, when the organic disease is in the female generative organs the nervous symptoms are very abundant. To sum up, I suggest that we ought to regard the disease as a local disorder of the large intestine. The many nervous symptoms need present no difficulty, for it is notorious how marked they may be in various diseases of the gastro intestinal tract; it is unfortunately not uncommon for a patient to have symptoms which lead to a diagnosis of neurotic dyspepsia when really he has a gastric ulcer.

By far the most important part of the treatment is to keep the large bowel empty. The simplest way to do this is by aperients and in many cases castor oil by the mouth will cure the patient. The best time to give this is the early morning as soon as the patient wakes; then the bowels are usually comfortably opened after breakfast. Many people wake an hour or two before they get up, so the oil should be taken then. Between half an ounce and an ounce is usually required. If the disease has lasted some time many weeks, even up to 12 or 16, may be needed before improvement is observed; the treatment should never be given up until a long trial has been allowed to it and in all cases it should be continued for some months after apparent recovery. I have known several patients who feel so much better when taking the oil that they have continued their morning dose of castor oil for years; indeed, they are still taking it. Usually the membranes gradually disappear entirely, but a few sufferers who are otherwise absolutely well continue to pass a little membrane occasionally. A minority are so nauseated by castor oil, however given, that they cannot take it; if that is so, sulphate of magnesium should be tried instead, or if this be found unsuitable calomel should be given overnight. I have known both these succeed when castor oil could not be tolerated. Should these methods fail the large intestine should be kept empty by washing out; if this is done in this country plain water at a temperature of 100° F. is best. A pint or even more should be used at a time and the water should be run in by a raised funnel. There is, however, no doubt that lavage is more effectual when carried out at Plombières than when used in this country; if, therefore, treatment by simple aperients fails the patient should go to Plombières. In very severe and otherwise intractable cases the large bowel has been kept empty by allowing all the fæces to escape by a right-sided colotomy. Mr. Golding-Bird and I have already described some such cases and therefore I need not go into any details. Since we published our paper I have had one other case in which the operation has been done by Mr. Bland-Sutton for membranous colitis. The patient was much improved by it but, unfortunately, she died from cancer of the breast. The operation should be very rarely performed, for it is very awkward to manage a right-sided colotomy after the operation, as the fæces are so fluid that the skin can only be kept clean with great difficulty and hence it may become inflamed, and anyhow the frequent escape of liquid fæces is very disagreeable; then it may be difficult to close the wound, which must be kept open at least a year, and in one case after it was closed the trouble returned. I have from time to time discussed the operation with patients but as a rule they have declined it. Should it be done there is no need regularly to wash the bowel through from the artificial anus to the anus; all that is necessary is for it to be empty and to start it in this condition one wash through may be given when the artificial anus is made. I have not seen short-circuiting done for this disease, but it has been done and might be tried if purgatives and Plombières had failed, but as in a severe case the trouble extends very low down in the large bowel connexion must be made as low as possible with the rectum. In thinking of operation it must be remembered that the disease does not of itself kill and it might well be in cases that have lasted many years the neurotic symptoms, having become a second habit with the patient, would not pass away even if the membrane ceased to form, just as the neuroses associated with a floating kidney are sometimes not benefited by fixing it. None of these 60 patients have been wage-earners and this no doubt has weighed with such as have declined operation.

A few cases appear to have derived much help from the application through the abdomen of high-frequency currents, but with others it has been useless. Various diets have been recommended but my experience has been that ordinary plain simple food is the best. Such things as fish, plain meat, eggs, butter, toast, milk puddings, cornflour, infants' food, and bread and milk may be given and I have not seen any good follow the large amounts of indigestible vegetable material which have been advised. Sometimes the mistake is made of giving these patients too little food; they are really starved. It may be that when first seen they are thin and wasted. If that is so the attempt should be made to increase the weight slowly by judicious feeding and rest. The so-called intestinal antiseptics are, I think, worse than useless. If diarrhœa is present it should never be checked by astringents: castor oil is the best treatment for it. Bad cases should be kept in bed for some time and all patients should be warmly clad, especially round the abdomen; indeed, sufferers from membranous colitis are usually made worse by exposure to cold. We are often told that "treatment should be directed to the underlying nervous conditions by appropriate means" but the objections to this are that, in the first place, it is not easy to find the appropriate means and, in the next place, even if they could be found attention to them might unduly attract our energies from the one thing needful—viz., to keep the large bowel empty. No case should be regarded as incurable until treatment has been continued for months. Not infrequently improvement does not set in till many months have elapsed.

I have not referred much to the literature of the subject for my object has been to record my personal experience and doing this has already made the paper long. Many references to the subject are given in the treatise by Langenhagen entitled "L'Entérocolite Muco-membraneuse" and others will be found in the volume of Nothnagel's Encyclopædia containing "Diseases of Intestines and Peritoneum," American translation, and in von Noorden's "Membranous Catarrh of the Intestines."

In every one of the 60 cases the attempt has been made to trace the after history of the patient and my last duty is to thank most heartily the many medical men to whom I have written for their kindness in sending me full accounts of their patients.

A Clinical Lecture

ON

SOME NEW LINES OF WORK IN ELECTRO-THERAPEUTICS.

Delivered before the Hunterian Society on Oct. 11th, 1905,

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GENTLEMEN,—Papers on electro-therapeutic subjects are not often read at the meetings of the general medical societies and therefore your invitation to deliver this first Hunterian lecture on an electro-therapeutic subject is much appreciated by me as a mark of honour not so much to myself as to the subject with which I have had the happiness of being identified for nearly 15 years. During those years great changes have taken place in the applications of electricity to medical work. The widespread distribution of electricity for electric lighting purposes has rendered possible the utilisation of electricity on a scale which would have been impossible in former times. These modern facilities for obtaining supplies of current would not of themselves have altered the aspect of electro-therapeutics had there not always been a few medical men who were attracted to the study of the science of electricity for its own sake and by a recognition of its therapeutic possibilities. As a matter of fact, the medical profession has never been slow in seeking to apply new scientific discoveries to medical uses. In electricity the frictional machine, the voltaic pile, the induction coil, and every other discovery of note have been tried in therapeutics immediately upon their discovery.

Although there have always been a few patient workers in the field of medical electricity, it is nevertheless the case that among the rank and file of the profession the interest excited by electrical methods of treatment has been slight. To those who judged merely by results the field seemed to be a barren one and so long as electricity was used in medicine mainly for the relief of states of debility, for the treatment of chronic paralytic affections and for old rheumatic cases, one could understand this attitude. The results of electrical treatments in those morbid conditions were of the same order of merit as those afforded by change of air, by sea-bathing, or by shampooing and gymnastic exercises, and as they entailed more trouble for their administration they failed to attract the busy practitioner. Electro-therapeutics could not thrive so long as it served mainly as a useful adjunct or accessory to other modes of treatment, but it has now made many forward strides and is becoming able to take a leading part in the treatment of many morbid states.

If any method of treatment is to command the general attention of the medical profession it must be able to render services which are superior to any which can be had from already tried and older methods, and, further, it should apply to conditions of disease in which relief is urgently needed. For example, let us take the treatment of urethral stricture by electrolysis. There is no doubt at all that these strictures can be treated with success by the electrical method, but its use has failed to become firmly established in general practice because the other modes of treating strictures give results which are equally good. On the other hand, if we consider the cystoscope, which is another electrical appliance for use in diseases of the urinary tract and, therefore, presumably appeals to the same class of practitioner as that which has rejected the electric treatment of stricture, we find that the cystoscope has been universally adopted in the surgery of the urinary organs for the simple reason that it renders services which cannot be obtained in any other way. The general adoption of the cystoscope by surgeons during the last 12 years is well shown by my own experience with the instrument. Formerly I was often called upon to attend at consultations with my battery and cystoscope in order that the bladder might be examined by their means, but for many years past I have received no such request because the surgeons now possess their own instruments and have mastered all the technical knowledge necessary to enable them to manipulate their cystoscopes for themselves without the intervention of an electro-therapeutic specialist.

The eagerness with which Roentgen rays were taken up by the medical profession as soon as they were discovered may be adduced as a further proof that electrical methods will never suffer from neglect if they are capable of giving first-class results.

The history of medical electricity has been a history of gradual progress by the method of trial and error—empirical for the most part, though based upon physics and physiology—and while there has been much chaff there has also been a harvest of grain. If we review for a moment the benefits which medical science has gained from electricity, confining our attention to those things only in which the advantages of electricity are incontestable, we shall see that the list is a goodly one. The names of Duchenne and of Remak may be made our starting point, their work having been the inauguration of modern methods of application of battery currents (galvanism and faradism) between the years 1850 and 1860.

The evolution of a systematic method of procedure for the examination of nerves and muscles by Erb during the succeeding ten years forms the next landmark. Owing to the exactness of its diagnostic results this section of electrical work has been one of the most precious gifts of electricity to medicine. The principles of electrical testing in paralytic disorders are universally accepted, but the anatomical knowledge which is needed to form the basis upon which the diagnosis of nervous disorders is built has been something of an obstacle to the general adoption of electrical testing by the profession at large.

The invention of the incandescent lamp of Edison and Swan has given medicine some instruments which are quite indispensable. Even before the carbon filament was invented the importance of the electric lamp for purposes of medical diagnosis had been realised. Nitsche used tiny loops of platinum wire in his early cystoscopes and although he experienced endless vexations through the fusion of the wire filaments, so that it is said that his lamps required almost daily renewal at great expense, yet he was so convinced of the value of the electric exploring lamp in the field of bladder surgery as to persevere in the face of all difficulties until the invention of the carbon filament provided him with a satisfactory solution of the problem. Numerous lamp instruments are now used by surgeons but it is only necessary to specify two of them—the cystoscope and the Antrum lamp—to show that here, too, electricity has rendered good service.

Electrolysis as a means of destroying certain classes of nævi and for removing hairs and small moles may also be given a place in the list of first-class matter contributed to medical practice by electricity. Although the conditions relieved are not dangerous to life, yet the method fulfils the requirements we have laid down as essentials because it gives results which are not attainable by any of the older procedures, and I am sure that there are large numbers of people who either are, or ought to be, very grateful for the results which electrolytic methods have given to them in the direction of cosmetic surgery.

The short list of matters which I have just given you may serve to represent the position of electricity in medicine down to the time (1895) of the discovery of Roentgen rays. Although I have purposely omitted all reference to what we may call second-class matter it by no means follows that there was no good thing among all the other applications of electricity to medical treatment, but for my present purposes I am confining my attention solely to those advantages of electrical methods in practice which admit of no question.

The discovery of Roentgen rays at once increased the claims of electricity to proper recognition. The demands for x ray apparatus have kept the instrument makers busy from that time to this and the developments of the therapeutic uses of x rays as well as the diagnostic uses have had the effect of overshadowing the rest of the applications of medical electricity so that they have been in danger of being forgotten by the general mass of the profession. The list of real gains in x ray therapeutics is large and highly important. If I pass by the question of malignant disease, in which nevertheless x rays may be of considerable value in prolonging life, we yet find a goodly list: rodent ulcer, lupus, psoriasis, chronic eczema, ringworm, sycosis, acne,

pruritus, and leukæmia—all these may be confidently claimed as conditions in which x rays give results of great value.

Time does not permit me to make more than a casual reference to the Finsen treatment of lupus. This may be claimed as a distinct gain and may be credited to electricity, though as a practical method it labours under the disadvantage of extreme cost and extreme slowness of operation.

As the field of electro-therapeutics goes on growing and as it continues to embrace the treatment of the more serious diseases which afflict humanity, we shall, I think, see less and less of the unqualified electrician. That individual derives his gains very largely from pandering to slight ailments and trivialities. Moreover, he has to trust very largely to his machines in fault of knowledge of physiology and medicine. When the relief sought for is of the nature of tonic or invigorating effects or the easing of a little rheumatism, or the strengthening of some impotent part, or the restoration of youth to the old, then the prescribing druggist or the man with the electrical machine is considered sufficient for the dealing with matters of such small relative importance. When, on the other hand, the patient is really anxious about himself and suffers from some disorder of a precise nature and really feels in need of skilled medical advice he takes good care to look for the best physician or surgeon that he can find, unless, indeed, he happens to be a person with considerably less than the average amount of common sense.[1] I do not think that the unqualified electrician is often asked to investigate and report on a case of nerve injury. Anatomical and medical knowledge is needed for electrical testing and diagnosis and the unqualified man does not possess it. X ray photography is rapidly becoming too difficult for him and x ray treatment too dangerous. High frequency has already shrunk into its proper small dimensions. The light bath—red, white, and blue—is destined to become a more or less ornamental accessory in Turkish bath establishments instead of being relied on as a panacea for all kinds of painful and other affections.

With this somewhat long preamble, which I trust you have not found tedious, I now come to the more immediate subject of my lecture—namely, the consideration of certain new lines of electro-therapeutic work. In spite of all the striking advances which have been made in the field of x ray therapeutics I am by no means of the opinion that the older field of work with the so-called galvanic and faradic currents is exhausted. For example, the subject of electrolysis has lately come into prominence afresh, not for the destructive actions which it exercises in its application to nævus, moles, &c., but as a means of introducing drugs into the system and also, perhaps, for the withdrawal of injurious chemical bodies from the system. This use of electrolysis is not entirely novel; something may be found upon the subject in most of the older text-books of medical electricity, but of late a better comprehension of the physical laws of electrolysis is leading to new medical applications which promise to be useful. Although doubtless you are familiar with the general principles which underlie electrolysis, it may perhaps simplify my task if I recapitulate them briefly from the medical point of view. When a battery or other source of direct current is connected to a patient by means of the usual moistened pads a current flows through the circuit, because the wires, the moist pads, and the body are conductors. The mechanism, however, of the conduction in the non-metallic parts of the circuit is not the same as that which holds good for the wires. Conduction in watery solutions of salts (and the tissues of the body may be regarded as coming into this category) takes place only by the conveyance or transport of charged particles or "ions" through the liquid from one metallic terminal to the other, and without this movement of material particles there is no conduction in liquid solutions. The moving particles or ions are the result of the dissociation of the molecules of the salt by the process of solution, so that a solution of sodium chloride in water contains abundance of dissociated ions of chlorine carrying negative charges and of sodium carrying positive. When a current is applied there is a double movement among these ions—a procession of the chlorine ions to the positive pole and of the sodium ions to the negative, every ion carrying its appropriate positive or negative charge, so that the measurement of the current by a galvanometer in the circuit gives an accurate indication of the number or amount of the chlorine ions brought to the positive pole and of the sodium ions brought to the negative.

An ingenious illustration of the state of things in a watery solution of salts to which an electric current is applied has been drawn from a ball-room, and though the simile is by no means a perfect one I think it may interest you. The inventor of the simile says, imagine a ball-room filled with people of both sexes, evenly distributed, some waltzing together in couples, others moving about irregularly, talking together and passing on and breaking up into changing groups and pairs. This represents the solution of the salt in its normal state, the waltzers being the undissociated molecules of the salt, the other individuals being those molecules which are dissociated into ions. All are in movement but the net result of all the movement leaves unchanged the general distribution of individuals throughout the extent of the room. Then, to represent the turning on of the current, let a sumptuous drinking bar suddenly appear at one end of the room and a gorgeous mirror at the other. The unattached individuals will at once commence a movement towards these poles of attraction—the men to the bar, the women to the mirror. Gradually, too, the waltzers or undissociated molecules will separate into their components and these will also commence their respective movements to the one pole and from the other, until after a certain lapse of time there will be a concentration of men round the drinking bar and of the women round the mirror and the numbers of the waltzers or undissociated molecules will have decreased. In the case of pads moistened with salt solution and conveying current from one part of the body to another the movements of ions are as follows. At the positive pole sodium moves inwards, penetrating the surface in contact with the positive pad on its march to the negative pole, and chlorine moves outwards, reaching the metal backing of the pad, and there is either liberated as free chlorine or else enters into combination with the metal to form a chloride. The phenomena at the negative pad are the complements of those at the positive—chlorine ions entering the skin and tissues, sodium ions moving to the metal backing of the pad and there appearing as metallic sodium, though rapidly suffering immediate decomposition from reaction with the water which exists there. If the body to be introduced through the skin be a kath-ion or positively charged ion it will migrate from the anode and the substances which enter from the anode are the ions of the metals, of the alkalies and of the alkaloids; while among those which may be usefully introduced from the kathode are salicylic acid and other acid radicles. In order to introduce ions of zinc into a given area the proper procedure is to apply a pad of lint or of cotton wool moistened with a solution of a zinc salt and to bring to the outer surface of the pad a rod or plate of metallic zinc connected to the positive pole of a battery. The current which flows is carried by the zinc ions of the solution which migrate inwards through the skin and, their place being supplied by fresh zinc ions set free from the zinc electrode, there is no fear of exhaustion of the supply, or of the contamination of the pad by ions of other metals, as would be the case if the metal used for the electrode were not zinc but copper or any other soluble metal. When the substance to be introduced is one like quinine or salicylic acid the supply of its ions must be maintained by the provision of an ample quantity of its solution in the fluid of the moistened pad and the metal of the electrode must be of platinum in order that extraneous ions may not complicate the process. Carbon discs or plates, if thoroughly pure, may be used instead of platinum, as carbon liberates no ions under the conditions of the experiment.

Having so far considered the essential rules for the introduction of ions into the living body the next and obvious question is as to the advantages to be gained by the procedure. As this is far more complicated than the administration of drugs by the mouth or by hypodermic injection it must have some corresponding advantages if it is to be adopted into medical practice. For purposes of local medication there might be a field of employment for electrolytic

[1] A word in season may be spoken here as to the unfortunate tendency of some medical men to send their cases to unqualified electricians. If those medical men could hear the kind of conversation with which their patients are regaled while under such treatment it would, I think, "give them furiously to think," if I may quote a French idiom. It commonly consists of systematic disparagement of medical men who are said to be "behind the times"; "only capable of prescribing useless drugs"; "ignorant of modern therapeutics," and so on. This kind of wholesale detraction goes on to a considerable extent, even the sender of the case coming in for innuendo and disparagement.

medication, although for general medication its use might be of no practical advantage. But even for local medication the method must be able to compare advantageously with the methods of subcutaneous injection, of fomentation, or of inunction. In theoretical support of the electrolytic method it may be pointed out that whereas a hypodermic injection passes into the interstices and lymph spaces and may never reach the actual cells, the ions introduced electrically must enter into the composition of every cell through which the current penetrates, at least in those portions which are in close proximity to the active electrode and, by reason of that penetration, they may be enabled to act more effectually and for a longer time before they are carried off into the general circulation by the lymph stream. The amount of penetration which follows fomentation or inunction is rarely of great use in medication.

The better way of settling this question of the merits of electrolytic medication is to try experiments and to observe the results and I shall therefore proceed at once to give you details of some experiments which I have made upon the local treatment of rodent ulcer and lupus by the introduction of the ions of zinc. My attention was called to this mode of treatment by a paper by Dr. Stephane Leduc, Professor of Medical Physics in the University of Nantes, which appeared in the latter part of 1904 under the title of "The Ions in Medicine," and gave a masterly sketch of the whole subject of electrolytic phenomena in medical practice. In that paper Professor Leduc referred again to a subject on which he had previously written—namely, on the healing of a rodent ulcer after an application of zinc electrolysis. I was much struck by the originality of this paper and reproduced it in the form of an extended abstract for the benefit of English readers in the February number of *Medical Electrology and Radiology*. I also commenced treating some cases of rodent ulcer, choosing to begin with simple, uncomplicated, small rodent ulcers which had not had any other kind of treatment. The first of these received an application in December of last year and I was agreeably surprised to see it heal completely within two or three weeks from the time of the introduction of the ions of zinc. Moreover, the disease has not returned, for I saw the patient quite recently and found the condition excellent, without any sign of relapse, although more than nine months have passed since the application of the zinc. Since treating this patient I have been able to try the same method upon six or seven other cases of small rodent ulcer and in every one of them I have been able to observe that the treatment exercises a markedly beneficial effect. I have not been able to secure so complete and rapid a healing in all of these cases as that which occurred in the first one, but the results have been uniformly good, nevertheless, and I would like to recount them in order that you may draw your own conclusions.

CASE 1.—One application, in January, 1905, was followed by healing in two or three weeks. The ulcer was seen in August and was found quite soundly healed without relapse.

CASE 2.—One application on March 1st. The patient was about to leave for the south of France and I was asked to do what I could in one application. The patient was an elderly lady and needed gentle handling and the strength of current was kept rather low. In May I wrote to inquire and received a letter from her medical man as follows: "The result has been most satisfactory. I found there was only a slight hardness left." Another letter received this week says: "The patient is still quite well. It is indeed most interesting to me."

CASE 3.—One application on July 3rd. The patient has not been seen since. A letter was received to-day from the medical attendant in answer to an inquiry which says: "If you had asked me some time ago I should have said that the rodent ulcer was quite well. But on Sunday he showed me a pin-point little abrasion on the upper part of the scar. I shall see him again in a few days and if there is any ulcer shall send him up to you."

CASE 4.—Two applications on May 11th and June 29th. The ulcer was seen on Oct. 6th and found to be healed over but with a few suspicious points at the margins. There was great improvement on the original condition. The application was repeated.

CASE 5.—Three applications on July 18th, August 30th, and Sept. 13th. The ulcer was quite healed on Sept. 27th and shows no sign of recurrence so far.

CASE 6.—Three applications on June 22nd, July 27th, and Sept. 4th. An irregular ulcer of the upper lip complicated by the presence of a moustache. Seen lately and found healed in great part, but still showing unhealed portions here and there.

CASE 7.—Four applications on Jan. 24th, Feb. 14th, June 20th, and August 1st. The ulcer was situated at the side of the nose near the left eye. The condition was like that in the last case. The patient had x rays previously and was treated with great caution through uncertainty as to what the skin would tolerate. The patient is improving. The ulcer is healing irregularly but is not well.

These results seem to me to be worthy of your attention and I have great pleasure in making my first report of them to this society. I consider them to be of considerable promise for the future. I attribute the special success of the first two cases to the condition of the ulcer at the time of the application. This is an important factor for the following reason: to obtain a successful effect requires an evenly distributed action of the zinc over the whole area of the ulcer and in many instances this is rendered difficult by the state of its surface which may be partly crusted over, conducting badly, and partly moist and raw, conducting well. Then, too, there is the advancing pearly edge of the disease still covered by a protecting layer of epidermis. In these ordinary circumstances the distribution of current, and therefore of the zinc ions, is an unequal one and some portions of the ulcer receive a better quantity of the zinc ions than other parts.

There are still several small details of practice to be worked out in this electrolytic employment of zinc ions and it takes a good deal of time to get these small matters just right. At present I use a solution of zinc chloride of the strength of five grains to the ounce, which is very nearly a 1 per cent. solution. I have also used zinc sulphate at the same strength and this seems to answer equally well. In either case owing to the dilution there is no question of caustic effects. I mention this because chloride of zinc has long been used in concentrated solutions for the destruction of unhealthy tissues, but its action as used electrolytically is not a caustic action and the treatment produces no additional scarring; indeed, the healed part may show hardly any evidence of the former existence of the rodent ulcer. The magnitude of current to employ depends upon the surface under treatment. Leduc has suggested a strength of two milliampères per square centimetre, applied for about 15 or 20 minutes. In my experiments I have used rather stronger currents for proportionately shorter time. The treatment causes some slight pain or discomfort if the current has too great a density, but in general the little operation is well borne. If that is not the case I introduce a little cocaine first, using a separate pad for the purpose.

I have brought some of my electrodes for inspection. As you will see, they are of simple patterns and can easily be made. The metal is covered by lint or cotton, tied on in some cases, and in others the lint is applied to fit the part under treatment and the metal held upon its surface. The zinc ions seem to remain in the cells of the affected part for some time, or at least the effect set up by the application seems to continue for a considerable time afterwards. For instance, in one of my patients, where it was evident on Sept. 6th that the pearly edge of the rodent ulcer treated on August 30th had not disappeared, it was decided to allow another week to pass before repeating the application, and a week later this edge had become very much less definite, although nothing further in the way of zinc electrolysis had been done to it, and a fresh application on Sept. 13th brought the case to a satisfactory conclusion. The appearance of the rodent ulcer at the end of the application is peculiar. When the zinc ions have penetrated thoroughly it has a milk-white look, rather disquieting in aspect until one is familiar with it; but this dead-white colour does not mean that there is going to be any necrosis of tissue and seems merely to be the proper appearance of a tissue impregnated with zinc ions. The white colour slowly fades away and leaves the surface rather sore for a week or more. During this period a little simple ointment may be applied but there must be no question of repeating the electrolysis for at least a fortnight or three weeks. At any rate, that is my present opinion. The depth to which the zinc ions can penetrate in a given time is also a matter requiring investigation. The rate of movement of ions in an electrolytic conductor has been determined and in the case under consideration is probably less than a centimetre in an

hour, the actual figure being influenced by the magnitude of the applied electro-motive force. The amount of zinc set in movement in an ordinary application of ten milliampères for ten minutes is about four milligrammes. The effect of the applications is, therefore, strictly local.

I am not in a position to say anything to-day about the influence of zinc electrolysis upon lupus, although I have tried, and am trying, the method in several cases of the disease. The cases which I chose at the outset for purposes of experiment have not yet proved successful, partly because of their irregular attendances and partly through my own absence from the department during the greater part of July and August, but the partial results so far obtained are not altogether discouraging, and I still hope that an electrolytic method of treating this disease either by zinc (or perhaps by copper) may be obtained. Leduc, in his highly suggestive paper on the "Ions in Medicine," does not by any means limit his remarks to the use of zinc and the treatment of rodent ulcer. He suggests strongly that zinc ions should be tried for all kinds of indolent ulcerations and discharging sinuses by reason of the great antiseptic effect which it exercises. He also deals with the electrolytic introduction of the ions of other metals, of quinine, of salicylic acid, of iodine, and many other drugs, and the impression conveyed by his paper is that, if it can only be established by further experiment that electrolysis provides an effectual mode of percutaneous local medication, its applications in medical practice may become numerous. There is evidently a great deal of work to be done in the development of his ideas. It is historically interesting to recall the fact that Benjamin Ward Richardson made many experiments in the production of local anæsthesia by the introduction of aconite in 1859, but his work met with so much opposition and incredulity that he was forced to give it up. More recently, the discovery of cocaine has enabled the production of local anæsthesia by electrolysis to be carried out with greater success, and I have used this procedure frequently before removing moles and small papillomata by needling.

Edison, in 1890, suggested electrolysis for the introduction of lithium into gouty tissues and since his time several medical experimenters have noted the good effect of this form of treatment. Quite recently Bordier[2] repeated these experiments, also using as electrode a bath containing a solution of lithium, and made a series of applications to a patient with large gouty deposits in the hands. He was not only able to demonstrate the presence of lithium in the patient's urine, as had been done before by others, but, and this is even more striking, he detected the presence of uric acid in the liquid of the arm baths, thus proving both the introduction of the kathion lithium and the extraction of the anion uric acid at one operation. There was also a marked change for the better in the condition of the patient's gouty deposits as a result of the experiments. It takes time to follow up and to work out the various lines of research suggested by these new notions of electrolytic medication. The possibilities, as I have endeavoured to show, are highly attractive, but much patient work is still necessary before we can claim anything like final results and I am sure that there is room for many workers in this new line of electro-therapeutic work.

In conclusion, I wish once more to emphasise the fact that the ideas involved in this account of electrolytic medication are the ideas of Professor Leduc of Nantes and that my own position in the development of this line of work is simply that of a follower and disciple of a much esteemed friend.

[2] Archives d'Électricité Médicale, 1900, p. 529.

THE DANGERS OF ANTHRAX.—The danger involved in working among camel's hair and "low foreign wools" is illustrated by a case that has recently occurred at Bradford. A coroner's jury on Oct. 13th returned a verdict of death from anthrax at an inquiry as to the cause of death of a woman who had been employed as a finisher on camel's hair and low foreign wools. It shows that though these materials "had been sorted, washed, willowed, carded, and combed," the anthrax germs had not been removed nor had they lost their vitality. Something more, therefore, should have been done before those working among them could do so safely, and, moreover, if they had been removed while their vitality remained they would have carried their evil powers with them.

THE PROBLEM OF HOW BEST TO UTILISE HOSPITALS AND SANATORIUMS IN THE TREATMENT AND PREVENTION OF CONSUMPTION.

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THERE appears to be a widespread feeling of uncertainty as to whether the sanatorium treatment of consumption has proved sufficiently satisfactory to justify the ever-increasing appeal for funds to maintain existing institutions and to erect new ones. The general public—or such portion of the public as interests itself in such matters—expresses disappointment and hints at failure of the "open-air treatment." The half-penny press, which always knows more than the expert, periodically announces with absolute confidence the discovery of some new "cure" for consumption and with equal assurance informs the public later that the supposed cure has proved a failure. Koch's tuberculin, prematurely boomed as a cure for consumption, was condemned as a failure when it was found to do no more than Koch had claimed for it. The hygienic regimen which is found to be so beneficial in the treatment of consumptives was boomed as the "open-air cure." Now that the public is finding out that, though its value fully endorses the expectations of the practical physician, it does not cure all consumptives in a few weeks, it also is condemned as a failure in time to clear the way for the new cure, the conception of which is announced in Paris, the birth being expected to take place in Germany next August. The public holds very strong opinions on medical as on all other subjects—opinions which it expects to have presented to it ready formed each morning with its breakfast. Unfortunately, these "opinions" often affect the direction in which the public's charitable gifts are bestowed and it is sometimes necessary that the "opinions" derived from those who assert should be corrected by those who know. It seems that the time has come when those who have experience of the open-air treatment of consumption, who have learned its immense value, and who also know its limitations, should attempt to regulate public opinion on this subject and prevent the swing of the pendulum going too far. Every medical man may be asked to express his views by someone who is convinced that the sanatorium treatment of consumption is a failure but all medical men have not had sufficient personal experience to allow them to speak with conviction. It seems, therefore, desirable that the *pros* and *cons* of this most important but somewhat complex problem of the value of sanatorium treatment as a factor in the eradication of consumption should be presented for discussion in the medical journals.

It is unfortunately true that the statistical reports of the various sanatoriums are somewhat misleading, though this is unintentional and to a great extent unavoidable. The improvement undoubtedly shown in many patients when they leave the sanatorium and rightly recorded in the reports may not be maintained when the patient resumes work in unhealthy surroundings; thus the "cure" of one report may subsequently figure as a new admission in another institution. Dr. Ronald Campbell Macfie has recently emphasised the deficiences of such statistical reports and has urged the need of after-care colonies for those "cured" and "improved" whilst in residence in the sanatorium. His article in THE LANCET of Sept. 30th, p. 958, is most valuable in pointing out the limitations of the sanatorium treatment; these limitations must be realised as well as the advantages of the treatment if we would avoid disappointment and escape discouragement. Dr. Macfie states that the sanatorium system is not only medically inefficient but also economically extravagant and he goes on to express the opinion, shared by many, that a careful and successful selection of cases by sanatorium experts would more than double the economic value of sanatoriums. Before we can satisfactorily select the cases, however, we must have a clear idea of what we can hope to achieve by sanatorium treatment.

The problem which confronts us in attempting to deal with the appalling number of consumptives, with the object of doing the best for the individual sufferer and at the same time endeavouring to stamp out the disease and thus benefit the community, is extremely complex. As visiting physician to the Mount Vernon Consumption Hospital country branch at Northwood this problem has been continually before me during the past year, and with a view to assist the committee of management to a clearer conception of the difficulties which it is so energetically attempting to overcome I sketched a report [1] which appears to me to serve as a corollary to the article by Dr. Macfie on Sanatoriums for the Poor and the Eradication of Consumption, to which I have already referred. This reports deals with a hospital having various departments and, though reserved for diseases of the chest, not restricted to the treatment of consumption in its early stages. The problem of the utilisation of the hospital to the best advantage of the very large number of consumptives who seek its aid is, however, exactly that with which every sanatorium for consumptives is confronted and the difficulties which present themselves in administration and the management of the patients at Northwood are probably met with in greater or less degree in all sanatoriums. I hardly need then to make any apology for giving the report which follows without any material omission or alteration.

The magnificent gift of the branch hospital at Northwood imposes upon the committee of management and the medical staff of the Mount Vernon Hospital the obligation of utilising this exceptionally fine institution to the best advantage of the greatest number of sufferers from consumption and of the community at large. The utilisation of the hospital to the greatest advantage offers for solution a problem of great magnitude and much difficulty, and there is evidence that its magnitude and difficulties are not entirely realised by the public at large nor by the subscribers and are, perhaps, not fully appreciated by the medical profession. A hospital for consumption and diseases of the chest has a wide rôle to fulfil and great responsibilities. It must be prepared to receive and treat sufferers from all kinds of chest complaints, whether acute or chronic: the acute cases to be treated until cure is complete, the more chronic cases to be "patched up" and rendered able to face a further spell of work. The chest hospitals must also take the lead in educating the public in the measures necessary for the prevention of pulmonary tuberculosis and in teaching patients the required precautions to avoid endangering others. The rôle of these special hospitals and the various departments needed to make them complete were sketched by me in opening the discussion on this subject at the International Tuberculosis Congress in 1901.[2]

With its out-patient department in Fitzroy-square, in the midst of a densely populated district, the hospital at Hampstead in the healthier air of the outskirts of London, and the country branch hospital at Northwood, the Mount Vernon Consumption Hospital approaches more nearly than any other chest hospital in London (and perhaps in Europe) to the requirements for a complete hospital for diseases of the chest. A colony for the after-care of "cured" consumptives and a home or haven for advanced consumptives are still wanting to make the scheme complete, though the latter requirement is to some extent supplied, so far as concerns the class from which hospital patients are mainly drawn, by the Poor-law infirmaries. The regulations guiding the admission of patients which have been formulated by the medical board serve to indicate the aims and scope of the hospital by showing how provision is made for meeting the needs of the different classes of diseases of the chest for the alleviation and cure of which the hospital is established. It will be seen from these that all kinds of chest diseases may be admitted to the hospital at Hampstead. Some of these—e.g., acute pneumonia—are acute illnesses which require immediate treatment and these may be admitted without waiting as emergency cases. Such cases should require only a short stay in hospital and the aim of treatment is complete cure. A second group comprises heart cases with acute symptoms and the less acute but still curable cases, such as pleurisy, empyema, early tuberculosis, &c. In these immediate treatment is not so essential, but nevertheless every week of waiting materially affects the probability of cure. A third group, by far the largest, comprises the chronic diseases of the lungs and heart, thoracic aneurysms, mediastinal tumours, &c. In these cases amelioration, not cure, is all that can be expected and in the majority of these cases delay in admission is not of vital consequence.

The hospital at Hampstead must afford help to patients in all these groups and in order that the limited number of beds (about 150) should be available for the largest possible number of sufferers it is essential that the stay of each patient should be short. Many of the patients, with a stay of a month in hospital, will be so far relieved as to be able to return to work for a longer or shorter period.

The country branch hospital at Northwood (100 beds), on the other hand, is not intended for the admission of such a wide range of patients. Its objects are, first, the more prolonged treatment of such cases of consumption as may be curable and, secondly, to provide a short period of rest with country air to convalescents after treatment at Hampstead. Not more than one-fourth of the beds at Northwood should be occupied by such convalescents, whose stay should, in the very great majority of cases, not exceed one month. The primary object of the Northwood branch is the curative treatment of consumptive patients and it is with this most important function of the institution, as of all sanatoriums for consumptives, that I propose now to deal. It is now very generally understood that it is in the early stages only of the disease that cure is to be anticipated. This does not imply that the more advanced cases of consumption never become cured; this would be contrary to the experience of all of us, but it is undoubtedly true that, whilst cure may be confidently anticipated if treatment is commenced in the early stages of the disease, the chances of a satisfactory result diminish as the disease advances. It is therefore of the greatest importance that patients with early tuberculosis of the lung should be placed under treatment without delay. Such cases must not be crowded out by chronic cases and thereby be kept waiting for admission. Thus only early cases should be admitted to Northwood or to any sanatorium.

The first difficulty which confronts us in attempting to carry out this essential principle is the want of appreciation of what constitutes an *early* case. In order to limit to some extent the range of cases which might otherwise be included amongst the "early" cases, the medical board has attempted to fix a standard to which all cases must conform to be eligible for admission to Northwood. It was suggested as a guide to the physicians who examine applicants for admission that, as a rule, selection should be restricted to those in whom the duration of the disease does not exceed 12 months and in whom not more than two lobes of the lung (on the same or opposite side) are affected. This is a very generous interpretation of what constitutes an early case and allows much more mischief than could reasonably be expected to become completely cured. Even with such an elastic definition of an "early" case only a comparatively small proportion of the cases admitted within the past year have come within the limit. This is much to be regretted but is partly attributable to the inevitable difficulty in perfecting the organisation for admission of patients. A similar complaint is to be heard from all sanatoriums.

Amongst the cases which come within the curable limit as to extent and duration of the disease there are different types, with different probabilities as to cure, and it is necessary to observe the course and progress of the illness and to weed out from time to time those cases which do not maintain their favourable character. Even in the most favourable cases the element of time necessary for cure has to be considered. The earliest and most favourable cases will probably require not less than three months to produce quiescence and arrest, and even then it is not possible to speak of the case as "cured." A further period—say from six to 12 months—during which the patient should be kept under observation, must elapse without any evidence of active disease (to insure that the arrest has become permanent) before we can assure the patient that he is cured. In the somewhat more advanced cases complete quiescence is improbable under six months, and more likely 12 months may be necessary; even then recrudescence or renewed activity of the disease may occur, so that the patient is not "cured." It is difficult to illustrate this from hospital patients, but amongst private patients I could mention several instances in which such recrudescence recurred occasionally during three or four years before complete arrest of the disease became permanent. Whether such cases ever become

[1] This report though drawn up some weeks ago has not yet been presented.

[2] Transactions of the British Congress on Tuberculosis, &c., 1901, vol. ii., p. 443.

"cured" in the sense of getting completely free from the seeds of the disease and from the liability to a recrudescence of the mischief is questionable, nevertheless such patients may remain free for the remainder of a long life and are thus practically cured. Still more advanced cases may recover and remain well, but treatment in such cases may have to be continued for several years before arrest is brought about.

There are in London alone about 25,000 consumptives, and the consumption hospitals of the metropolis can provide under 1000 beds altogether, or one bed to every 25 patients, even if only consumptive cases were received and admission were restricted to London patients alone. If each patient were kept on an average three months there would still be only sufficient accommodation for one-sixth of the London consumptives in the year. If we aim at curing patients we must therefore reserve a number of the beds for the curable cases only. In the case of the country branches of the chest hospitals, such as Northwood, and in all sanatoriums this is essential. Some of the curable cases would require from six to 12 months or more for cure to be brought about; it is therefore better when the number of beds is so limited to reserve them for those cases in which arrest might reasonably be expected with three months' treatment in hospital and a period of observation afterwards as out-patients to insure that the arrest remains permanent ("cure").

There is, however, another mode in which the hospital could be usefully employed and by which a greater number of patients could be admitted during the year. If each patient were kept in for one month only this would allow in many cases of the processes which tend towards arrest being commenced, and in all cases it would be long enough to teach the patient how to manage himself so as to prevent the spread of his disease and how to regulate his life to the best advantage to bring about a cure. He could then be discharged to carry on the treatment at home. It is, however, doubtful whether such an extensive and thoroughly equipped institution as the Northwood Hospital is the most suitable place for such educational purpose for poor persons, for the contrast between the hospital and their small, ill-ventilated dwellings would tend to discourage the poorer patients and to make them feel the impossibility of continuing "the cure" in such different surroundings. There is a further objection to restricting the use of the hospital to this purely educational rôle, though in any case the educational value of the hospital is enormous. There is abundance of evidence to show that patients from the poorer districts who have improved considerably under the hygienic conditions of a well-managed consumption hospital or sanatorium may, if they return to their unhealthy surroundings before arrest of the disease is complete, soon relapse; the disease again becomes active and even advances more rapidly than before. In such a case the patient is in a short time worse than if he had never been admitted to hospital and we have done him harm rather than good. It may, therefore, sometimes be kinder and wiser to refuse admission into hospital to a consumptive patient if we are unable to keep him there until his disease has become arrested and, as I have already pointed out, it may take many months for this arrest to be attained. If we are prepared to retain all patients until arrest has occurred we may find that we are only able to treat about two or three patients in the year for each bed in the hospital. This raises at once a very important financial question which materially affects all charitable institutions, though it does not arise in the case of sanatoriums for paying patients. Will persons subscribe annually to an institution if only about 1 in 4 of them can hope to obtain admission for one patient during the year?

The problem is, however, still further complicated when we are dealing with the working classes by the moral effect on the individual of several weeks or months of enforced inactivity. It is found that a large proportion of those patients who remain in the hospital for three months or longer lose all willingness to work; they even come to object to carrying out the small duties which they at first willingly performed. As their physical capacity for work increases so does their moral distaste for work increase also. We cannot claim to have done the greatest good to the individual if, whilst rendering him physically sound, we have allowed him to degenerate morally. To avoid this undesirable result it is advisable that all patients after they have been in residence for three months—or before this if they are fit for it—should have some regular and useful employment provided for them. In this respect, as well as in training patients in healthy occupations, consumptive colonies (or "after-care" colonies) would be most valuable and are much needed. I am informed that at the White Haven Sanatorium, which is worked in conjunction with the Phipps Institute in Philadelphia, every patient has to work for eight hours a day for a month before discharge to insure that he can safely return to work outside.

Such, then, is the problem which it has been our endeavour to solve at Northwood during the last 12 months. As visiting physician it has been my duty to decide upon the length of stay in the hospital for every case and I have felt that the office of visiting physician carries with it a great responsibility. The method which I have adopted in discharging the responsible duties that have been imposed upon me by my colleagues of the medical staff and by the committee of management is as follows: I examine every patient on admission and endeavour to form some opinion as to the probabilities of improvement or of arrest within a reasonable time, noting my conclusions in a special book. Each patient is again brought before me and examined after four weeks' residence; if there does not then seem reasonable expectation of considerable improvement or arrest within three months I discharge the patient. Where improvement is manifest and likely to continue, even though complete arrest does not seem probable within a reasonable time, I keep the patient in hospital and examine again at the end of another week. Those patients who are steadily progressing towards arrest or cure are not examined again by me for another month. At each examination this "weeding-out" process takes place, no patient being discharged so long as the possibility of cure or arrest within a reasonable time seems hopeful, and, on the other hand, no patient is retained when it seems evident that no further improvement is to be expected within a reasonable time. The definition of the term "reasonable time" is purely arbitrary—the result of my own judgment, taking into consideration on the one hand the probable advantage to the patient of a longer stay and on the other hand the obligations of the institution to those who are waiting for admission. The result is of course a compromise, the majority of the patients being discharged very much improved (and many of them well on the way towards arrest) but yet not "cured," and all having been taught how to regulate their lives to the best advantage. Comparatively few have as yet been kept until the disease has become entirely arrested—time alone can prove whether these have been cured. It should be noted that though the discharge of patients, and thus the duration of the stay in hospital of each one, is left in the hands of the visiting physician the patients are not kept a month without being examined, for besides the resident medical officer there is a resident physician who examines each patient every week. Even under the scheme which I have mentioned I examine from 25 to 50 patients at each visit. Though we may not be able to record a large number of cures as the result of a year's work at the Northwood Hospital, I am satisfied that the institution has been of inestimable value to the majority of those who have been admitted. Many have been able to return to work, some of whom will in all probability remain well for many useful years. Even the few who from the advanced stage of the disease have become worse instead of better whilst at Northwood have at least been made more comfortable than they could possibly have been at home or in any institution in the heart of London. The sanatorium treatment of consumption may not do all that we could wish or fulfil the uninformed anticipations of the man in the street but it is emphatically "worth while."

Harley-street, W.

THE "LIGHT TREATMENT" OF LUPUS VULGARIS.[1]

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THE term "light treatment" is often loosely used, being made to include not only the application of the chemical rays of light concentrated in the manner devised by Finsen but the therapeutic employment of the x rays. This is misleading, inasmuch as the latter have nothing to do with light

[1] A paper read at the International Congress on Tuberculosis at Paris on Oct. 3rd, 1905.

in the ordinary sense. The distinction should therefore be borne in mind in endeavouring to estimate the respective values of the two agents. Another source of confusion is the use of the term "Finsen's method" to describe apparatus and modes of application which the discoverer himself expressly disowned. This treatment, in fact, is in danger of falling into disrepute owing to the widespread use of lamps by which the light is imperfectly concentrated and hence is deficient in penetrative power. The lamp now generally used in my clinic is Reyn's modification of Finsen's. Though less universally applicable than the larger apparatus it is in most cases equally efficient and its use makes the treatment considerably less costly. The London modification of the Lortet Genoud lamp has been discarded as practically useless, the light generated by it reaching little below the surface.

My experience of the treatment of lupus vulgaris by Finsen's method now covers a period of about five and a half years. During that time I have, in conjunction with Dr. S. Ernest Dore, employed it in cases of almost every variety of type and degree of severity. More than three years ago in a paper[3] we said: "Although in our opinion the results we have obtained have fully justified the employment of the treatment, and in some cases no other treatment could have produced such good results, we do not regard it as the only method to be used in all cases, nor advocate it indiscriminately to the exclusion of other methods." The outcome of a considerably more mature experience may still be given in the self-same words. Speaking as one who during more than 25 years has tried all methods having the sanction of professional authority or appearing to rest on a scientific basis, I can say that the light treatment has, in my hands, produced results on the whole superior to those which I have obtained by any other. Not a few cases are, however, met with in practice in which it cannot be applied and even when it *can* be applied it often fails to effect a thorough cure. Even when the disease is to all appearance healed the cure is not often lasting. I think it right to state the conclusions to which our experience has led Dr. Dore and myself, all the more plainly because the natural tendency to exaggerate the curative virtues of a new remedy has in some quarters led to the expression of what seems to me an unduly optimistic opinion of the efficacy of Finsen's method.

The fact is that lupus vulgaris is so variable in extent, severity, course, and constitutional effects that no method can be universally applicable. There are cases which can be successfully dealt with by almost any form of local treatment; on the other hand, there are cases which no means at present known to medical science can cure. In illustration of this point reference may be made to the case of a patient with a small non-ulcerating patch of lupus on the cheek. Light, x rays, and radium all failed to do more than cause a temporary disappearance of the nodules. Almost every known method of treatment had previously been tried in vain. The fact must be faced that in spite of all the therapeutic progress that has been achieved cases are still met with which resist the action of the newer physical as well as the older methods. In such cases there would seem to be some special influence at work which is not reached by means of treatment at our command. It is not the mere extent of the disease that makes it more refractory, for the quality is equally displayed in small patches. Possibly the way to success may lie in the discovery of some means of modifying the soil.

As I have said elsewhere,[3] lupus vulgaris sometimes presents the characters of a general infection, the pathogenic organisms being distributed by the blood stream and multiple foci becoming developed in different parts of the cutaneous surface and on mucous membranes. In such cases the light treatment is as powerless as any other to check the progress of the disease. Where the disease is limited to a small patch and does not penetrate deeply into the tissues Finsen's method is decidedly superior to any other, for the lupous tissue can be destroyed without pain and subsequent scarring. It is also effective sometimes even when the disease is extensive; in such cases its advantages, as compared with scarification, caustics, and the knife, are especially conspicuous, for it does not cause the hideous disfigurement left by them. It may be added that the light treatment does not leave its mark in the form of the local hypervascularity which frequently follows the application of the x rays. If the disease recurs the light treatment may be continued for an indefinite time without injury to the original scar. It should be stated, however, that in one or two of our cases the cicatricial tissue has become for a time slightly hypertrophied but true keloid has never formed. In one case two or three callosities having an appearance resembling epithelioma developed on the face; microscopic examination, however, showed them to be benign. When the disease is rapidly spreading the destructive action of the light, to which only a very small area can be exposed at a sitting, is altogether insufficient to keep pace with its advance. In such circumstances Finsen's method requires to be supplemented by the x rays which can be applied to the whole or a large part of the affected surface. Indeed, in all cases under our care, except those in which the disease has been of small extent and quite superficial, the two methods have been used in combination. Each of these agents has its special field of usefulness. When there are only one or two superficial scattered patches or a few isolated nodules the light may generally be trusted to do all that is required. When the disease is of moderate extent the whole area may be treated by the x rays while light is applied to the edges of the satellite nodules. Where the lupus is very extensive it may be controlled by the exposure of considerable areas to the x rays, the treatment being subsequently followed up by the employment of light. It is in cases in which the face is the seat of non-ulcerated lupus of limited extent, and especially when no previous treatment has been employed, that light is most effective. When the greater part of one or both cheeks is invaded the x rays should be used. Much time may, as we have had occasion to observe, be lost by attempting to treat extensive patches by Finsen's method alone.

The x rays are especially useful in cases in which mucous membranes which are inaccessible to the light are affected. They are of particular value when recurrence takes place after temporary cure by the light treatment. Besides their greater destructive power, the x rays have the further advantage in such cases that shorter applications are required and large areas can be treated while the patient is spared the pain and inconvenience of the repeated inflammatory reactions with the attendant soreness and scabbing produced by the light treatment.

In ulcerating lupus the x rays are often very serviceable while the light is usually ineffective. In many cases, whether light or the x rays, or both are used, the treatment has to be reinforced by the employment of caustics. Applications of pyrogallic acid, salicylic acid, singly or in combination, acid nitrate of mercury, nitrate of silver, and pure carbolic acid may be needed to prepare the way for the light or x rays by removing the horny layer and getting rid of thickened and pigmented tissue that would form an obstacle to the penetration of the rays. These agents are often useful adjuncts to Finsen's method. In all cases, small or extensive, in which the disease proves refractory to the light carbolic acid or tincture of iodine may also be employed to increase the reaction caused by the light or x rays.

Full details of our experience have been given in a series of papers which have appeared in various journals.[4] It will, therefore, be sufficient here to give the briefest possible summary of our results of 75 cases in which the treatment has been fully and fairly tried. These are divisible into three categories, according as the disease was of small, of moderate, or of large extent. Of the whole number, 21 belonged to the first of these categories, 31 to the second, and 18 to the third. In 23 cases mucous membranes were affected; of these cases, three belonged to the first, ten to the second, and ten to the third category. In all the cases belonging to the first class a cure was effected, but in several after slight relapses had been treated. In the majority of them there has been no recurrence after varying periods of two, three, or more years, but a few have been lost sight of and the final result is unknown. In most of the cases belonging to the second category there has been more or less frequent recurrence after apparent cure and the term "cure" cannot therefore be used in an absolute sense, but temporary recovery resulted in the

[3] Brit. Med. Jour., May 31st, 1902.

[3] An Address on the Treatment of Lupus Vulgaris during the last 25 years, delivered before the Fifth International Dermatological Congress, Berlin, September, 1904, THE LANCET, Oct. 22nd, 1904, p. 1129.

[4] See Brit. Med. Jour., Feb. 9th, 1901; ibid., May 31st, 1902; Practitioner, April, 1903; Tuberculosis, vol. iii., No. 10; THE LANCET, Oct. 22nd, 1904, p. 1129.

greater number of those who were treated for an adequate time. Of the cases belonging to the third category general improvement was brought about in nearly all and in ten the greater part of the lupus was removed and relapses have been so slight that the patients might almost be regarded as cured. In the remaining cases progress has been very slow and the patients are still under continuous treatment. On the whole, notwithstanding a certain number of cases in which complete success may fairly be claimed, we are compelled to repeat that the light treatment is no more permanent in its effects than older methods. Most of our patients have been obliged by repeated slight relapses to return at intervals for further treatment. In several cases the disease has not been eradicated after nearly five years of almost continuous treatment. It should, however, in fairness be stated that a bald summary of results fails to convey an adequate impression of the beneficial effects of the light treatment. If it not seldom fails to cure it always mitigates the disease and this it does with far less pain and incomparably less distressing after-effects than the severer methods which were formerly the only resource of medicine. It has not indeed made these methods obsolete but it has greatly restricted their application.

In addition to the uncertainty which it shares with every other known method the light treatment has certain special disadvantages. The chief of these are its costliness and the amount of time required for the production of any lasting effect. The former of these objections may be partly removed by the use of the Finsen-Reyn lamp; the latter must, it is to be feared, always be a serious limitation to the usefulness of the treatment. Few patients can afford to give up months, it may be years, of their lives to a treatment which is always irksome and often, during the periods of inflammatory reaction, painful; even when the cure is to all appearance complete the patient must still remain under supervision for one, two, or even three years.

On the other hand, the treatment has very decided advantages over all others. The most important of these is that there are no deep scarring and no disturbance of the health, however long the treatment may be continued. On balancing the advantages with the disadvantages it must, I think, be admitted that when every allowance has been made for inevitable failures the advantages of the light treatment are so great as to make them well worth securing even at a cost of considerable inconvenience. It is, however, necessary again to emphasise the fact that the light treatment *by itself* has a very limited sphere of usefulness. As a rule it is effective only in cases in which the disease is slight and superficial, while the impossibility of applying it to the interior of the nose, which there is reason to regard as the starting point of the disease in a large proportion of cases, still further detracts from its value.

Harley-street, W.

MULTIPLE ABSCESSES OF THE KIDNEY DUE TO ACUTE ASCENDING INFECTION OF THE NORMAL URINARY TRACT BY BACILLUS COLI COMMUNIS.

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IT would appear that in exceptional circumstances micro-organisms may rapidly ascend the normal urinary tract more often of a woman but sometimes of a man and produce as they go urethritis, cystitis, pyelitis, and, finally, multiple hæmorrhagic abscesses of the kidney. This infection seems to be of a transient character, for the urethritis and cystitis clear up spontaneously in two or three days by which time the kidney shows innumerable points of suppuration, and if only one kidney be affected, and this is promptly removed, the patient makes an immediate recovery without further inflammation not only of the lower urinary passages but even of the wound. It would seem well first to narrate the cases on which these statements are founded. The following is the case which first directed my attention to this subject.

CASE 1. *Acute multiple abscesses of the right kidney due to an ascending infection of the urinary tract; nephrectomy; immediate recovery without suppuration.*—The patient, a man, aged 27 years, was admitted to the London Hospital on Dec. 30th, 1904. On the afternoon of Dec. 24th he had attended some trade festivities connected with the Christmas holiday and had been to an afternoon performance at a theatre. He assured me that he had drunk moderately and only of coffee and lager beer, but as he was returning home at 8 o'clock in the evening he suddenly passed his urine into his trousers. This incontinence was not attended by any pain and he was quite unable to account for it. He assured me that he had not been indiscreet on this or on any previous occasion since his marriage two years before and that at no time had he suffered from any venereal disease. On the following morning at 10 o'clock he was seized with a sudden desire to pass urine and this was followed by severe scalding pains in the urethra. The desire to micturate became more and more frequent and the pain before and after more and more severe until before evening he was suffering from well-marked strangury and was, as he expressed it, "bearing down all the time." His urine was thick and turbid from the start of the attack and he was feverish and thirsty. On the 26th, the second day of the attack, he first had some pain in the loin on the right side and as the day went on this spread round the flank to the front of the abdomen. He did not vomit but suffered from nausea. The frequency of micturition and the turbid character of his urine continued unchanged. He lost all appetite for food and was feverish and thirsty. On the third day the symptoms were much as before but he was worse. On the fourth and fifth days of the attack the pain in his loin became predominant, whilst the scalding in his urethra, and with it the frequency of micturition, steadily diminished until they were scarcely noticeable. The urine, however, remained turbid and his general condition was much worse.

When the patient was admitted to the hospital on Dec. 30th his temperature was 102° F., and during the next two days it oscillated between 101·5° and 102° and twice reached 104°. His pulse varied from 90 to 112 beats per minute and was bounding in character. He was pale and anæmic and looked thoroughly septic. His urine was acid in reaction, of specific gravity 1018, and contained an eighth of albumin when boiled and allowed to settle. Under the microscope it was found to be full of well-formed polynuclear leucocytes unlike ordinary urinary pus cells. There was no excess of mucus and only one or two red corpuscles were seen. No casts could be found. Unfortunately no bacteriological examination was made. The urethra was examined and there was no purulent discharge although its lips were red and somewhat everted. The cords and testicles were normal and a rectal examination showed nothing amiss with the prostate, vesiculæ, or recto-vesical pouch. On examining the abdomen the upper part on the right side in front, behind, and laterally was exquisitely tender. Deep palpation was difficult but a swelling was made out behind the upper half of the ascending colon. When most clearly defined this appeared to be the lower end of an enlarged kidney, but at other times it resembled a "recto-colonic" abscess of appendicular origin. There appeared to be no peritonitis. The left kidney was not palpable or tender. The spleen was not enlarged. The heart and the lungs were normal and no source of infection could be found in the form of acne, boils, or a sore throat.

I had previously seen two cases of appendix abscesses which burst into the urinary tract and discharged similar pus in the urine and one of these was retro-colonic in position. I was therefore in doubt whether this was a similar case or an acute infection of the right kidney.

On Jan. 2nd, and on the eighth day of the attack, I cut down on the lump in the loin, placing the centre of my incision over the reflection of the peritoneum so that I could deal with either an appendix abscess or a kidney. The peritoneum in the front part of my incision was normal and I was fortunate enough to encounter the normal appendix in an external position without having to open the abdominal cavity. I then prolonged my incision backwards and upwards and stripped forward the peritoneum and colon. The kidney at once came into the wound and on tearing through its fatty capsule it was found to be about twice its normal size and intensely congested. Its surface was covered with a great number of subcapsular hæmorrhagic spots (Fig. 1); the larger and apparently older of these showed

yellow suppurating centres. At the time I regarded them as infarcts the result of a shower of minute infective emboli but I argued that the man could not recover with such a kidney in his body and I must risk the other kidney being similarly affected but in a lesser degree, although there was

FIG. 1.

The two halves of the kidney removed in Case 1. The capsule has been stripped off. A great number of raised hæmorrhagic areas are seen of the size of a small pea. The centres of the larger ones are yellow and purulent.

no evidence of this. I accordingly enucleated the kidney, ligatured the vessels, and removed it, dividing the ureter as low as possible. A drain was inserted. The muscles were united by buried catgut sutures and the skin with continuous catgut.

FIG. 2.

The same kidney in section. The spots on the surface are seen to be the bases of wedged-shaped areas, the apices of which run in towards the pyramids. The edges of these areas are black and hæmorrhagic; the centres are pale and yellow. The figures on the illustration have no significance here.

The patient's recovery was immediate and complete. The temperature reached normal at 8 o'clock the same night and only once next day rose above 99°, after which it never again reached this point. The pus disappeared from the urine and leucocytes could only be found by the aid of the centrifuge. The pulse was 72 per minute on the day after the operation and the patient at once lost his septic appearance. The tube was removed from the loin on the fourth day and the wound healed without suppuration.

On dividing the kidney vertically from the cortex to the pelvis the condition shown in Fig. 2 was found. The spots on the surface were seen to be the bases of wedge-shaped hæmorrhagic areas running into the pyramids. The central parts of those wedges were pale, necrotic, and suppurating. Submucous hæmorrhages were found at several points in the pelvis of the kidney. The renal artery and vein were carefully dissected out but no embolus or thrombus could be discovered. Sections were cut by the late Dr. G. R. Slade from a wedged-shaped piece passing through some of the largest patches of suppuration shown in Figs. 1 and 2. Some were stained with hæmatoxylin; others with methylene blue and by Gram's method. No micro-organisms could be demonstrated. The areas of inflammation were found to be in the bundles of tubules forming the lobules and not around the vessels between them. No interlobular vessel was thrombosed, only the small twigs which entered the necrotic areas. The inflammation appeared to have started in the tubules, the cells lining which were swollen, stained badly, and in the centre of the areas were entirely disintegrated.

The microscopical sections, the submucous pelvic hæmorrhages, and the history of the onset with urethritis and cystitis seem to leave no doubt that this was an acute ascending infection of the urinary tract. I think it probable that a more careful search would have revealed casts in the urine.

I am indebted to Mr. Hugh M. Rigby, assistant surgeon to the London Hospital, for the following account of his case.

CASE 2. *Acute nephritis.*—The patient was a woman, aged 35 years, who was admitted to the London Hospital on Oct. 30th, 1903. She had been ill for five days before admission. The first symptom noticed was increased frequency of micturition with severe burning pain during the act. This was followed by pain in the back and the right side and the lower part of the abdomen. The urine passed was of a high colour but did not appear to contain blood. She had previously been in good health. As the pains and her general condition became gradually worse she went to the hospital.

On admission the patient, a well-developed woman, looked ill and appeared to be in a good deal of pain. The tongue was furred. Her pulse was 100 per minute, regular, and of full volume. Her temperature was 102·5° F. She complained chiefly of pain and tenderness in the right side of the abdomen and right lumbar region. On examination of the abdomen a large tender swelling could be easily felt in the right hypochondriac and lumbar regions; it was in the position of a renal tumour and did not move freely on respiration. There was not marked bulging of the loin but the muscles were rigid. There were no external signs of suppuration. The kidney on the left side could not be felt. The urine on examination was found to contain a small amount of blood and pus. It gave an acid reaction and was of specific gravity 1020. A microscopical examination showed the presence of numerous granular and blood casts. Unfortunately a bacteriological examination was not made. On the evening of the day of admission the patient had a rigor, her temperature being 104°. On Oct. 31st, as her condition had not improved, an exploratory operation was made as follows. An incision was made in the right lumbar region and the kidney was exposed. The fascial capsule and kidney fat were found adherent and inflamed. The kidney itself was greatly enlarged. Its surface was deeply congested in places and of a dark purple colour. On the upper half of the convex border many white spots were seen on the surface. An incision over these revealed suppurating foci extending into the medulla of the kidney substance. It was thought advisable to remove the kidney, which was then done. The vessels were ligatured with silk. The ureter was then examined; its walls did not appear thickened or appreciably diseased, so a ligature was tied round it low down. A drainage-tube was inserted and the wound was closed.

The after-progress of the case was most satisfactory. On the following day the temperature fell to normal and remained so. The bladder symptoms and abdominal pains cleared up completely. Three days after the operation the urine was found to be free from blood, pus, and albumin. The wound healed by first intention. The tube was removed on the fifth day.

The naked-eye appearance of the kidney showed intensely acute inflammatory changes all over the medulla and cortex. In many places hæmorrhages were seen. The most noticeable feature was the presence of innumerable radiating foci of suppuration extending from the medulla to the cortex; some of these formed definite abscesses evidently acute and necrotic in character. The pelvis of the kidney was acutely congested but not dilated. The main vessels of the organ were apparently normal. A microscopical examination revealed a typical acute tubular nephritis; everywhere there was marked round-celled infiltration in the intertubular tissues. The cells lining the tubules were much swollen and granular and in some parts were undergoing acute disintegration. The section showed no evidence to support the theory that the infection was hæmatogenous. The small vessels were thrombosed but the infiltration of the tissues surrounding them was not more marked than in other parts of the field. No micro-organisms were seen.

The following case was regarded by Dr. G. E. Brewer as one of multiple infective emboli of the kidney. The case is, however, identical with the others recorded and Dr. Brewer was apparently unaware that wedge-shaped areas of

suppuration in the kidney may arise from an ascending infection of the uriniferous tubules as well as from infarction of the vessels. When an embolus is the cause of the wedge, however, the area is interlobular and the apex terminates in the intermediate zone and between two pyramids. When the wedge is produced by an ascending infection it is intralobular and the apex passes down into a pyramid. Professor Sundberg described this distinction very clearly in 1899 in his description of Professor Lennander's specimen (Case 4) and before reading his description I described an exactly similar condition in my case (see Case 1). It is, moreover, incredible that a myriad of tiny emboli should enter one kidney, should avoid the other and every other organ in the body, and that there should be no origin of sepsis and no septicæmia if the case was really hæmatogenous. I think for these reasons that Dr. Brewer's case may be justly included in this series.

CASE 3. *Acute hæmatogenous infection of the kidney.*[1]—The patient was a woman, aged 22 years. The case was at first thought to be acute appendicitis. Five days before Dr. Brewer saw the patient she was suddenly seized with intense pain in the right side of her abdomen. This was followed by nausea, vomiting, chills, and fever. There is no note of the presence or absence of frequency of micturition or of scalding. On admission to the Roosevelt Hospital her temperature was 104° F. and her pulse-rate was 130 per minute. Tenderness was present over the right upper abdomen covering the region of the gall-bladder in front and extending round the side to the costo-vertebral angle behind. It diminished below towards the region of the appendix. Moderate rigidity of the abdominal wall was present over the same area. Per vaginam the right Fallopian tube was found to be a little enlarged and tender. The urine contained albumin, hyaline and granular casts, and a few pus cells. Cystoscopic examination revealed nothing. On catheterising the ureters more pus cells were found in the urine from the right kidney than from the left. The leucocytosis was 18,000 white corpuscles per cubic millimetre. During the next three days the temperature varied from 103° to 105°. On the fifth day, as the patient was becoming more septic and prostrated, an exploratory laparotomy was decided on. Nothing abnormal was found in the gall-bladder, the liver, the cæcum, or the duodenum. The right kidney was thought to be enlarged and was exposed through a lumbar incision. The areolar tissue and fatty capsule were œdematous. The kidney when exposed was deeply congested with numerous subcapsular hæmorrhages. It was incised and the cortex was found to be the seat of numerous "infarcts." A hasty nephrectomy was performed. The patient's temperature dropped in six hours from 105° to 97·5° and during the following two days was most of the time subnormal. Her convalescence was rapid. The secretion of urine was from the first satisfactory.

The case was of interest, Dr. Brewer said, for the reason that the lesion was undoubtedly a secondary one due to blood infection and was apparently the only lesion of any importance in the body furnishing all, or nearly all, of the toxins which gave rise to the patient's grave symptoms. In reply to a question Dr. Brewer said that no cultures were made. Dr. Charles H. Peck, who had seen the case with Dr. Brewer, said that the subsidence of the symptoms after the removal of the kidney was very striking.

Dr. Brewer has also recorded two other cases which probably belonged to this class but the notes are too brief to be certain of their identity.[2]

For the following cases I am indebted to Dr. Ernest Ward, my late house surgeon, who has very kindly searched the entire literature from 1895 to 1905 for them.

CASE 4.—*Splitting of the kidney in acute pyelonephritis.*[3]—The patient, a woman, aged 46 years, was admitted to hospital on Oct. 28th, 1899, and discharged on March 16th, 1900. She had suffered for 14 years with a *nervenfieber*. The onset was sudden, with frequency of micturition accompanied by burning pain, about 14 days before admission and she steadily got worse. On admission there was no sign of kidney infection. The urine was of specific gravity 1012, neutral in reaction, and contained pus cells and some albumin but no casts. Streptococci and a short bacillus were found.

On Nov. 2nd the temperature rose to 39·4° C. and the patient felt ill and tenderness appeared over the right kidney. There were right lumbar pain and vomiting on Nov. 4th. The operation was nephrotomy, splitting, and partial resection. The patient made a good recovery and was out of bed on Nov. 13th. A fistula, however, persisted, which was closed by a plastic operation on March 1st. She subsequently passed through an acute pneumonia and nephritis and recovered. The capsule of the kidney was œdematous. Yellow flecks were seen occupying two areas on the kidney cortex. The ureter was thickened and the peri-ureteral tissue was injected. Yellow stripes inside the kidney corresponded to the areas of flecks on the surface. This was the part resected.

The macroscopical description of the parts removed by Professor Sundberg was as follows. The specimen consists of half a pyramid with its cortex bounded by a part of a column of Bertini. The apex of the papilla is pale grey. Higher up are seen two yellowish grey stripes in the direction of the canals surrounded each by a thin reddish-brown hæmorrhagic infiltrated edge. After a course of half a centimetre in the cortex these stripes change into a much altered tissue area, so that they form a wedge-shaped area with the broad base on the outside near the surface. The whole altered tissue reminds one strongly of a hæmorrhagic infarct, but it has its apex in the upper part of a papilla. The cut surface of this area is dark and black, like an infarct, and passing outwards from it are streaks which here and there extend to the surface. Some of these streaks on section are as large as pins' heads and greyish-yellow and exude thin pus, especially one row of small collections immediately beneath the capsule. The surface of the specimen is dry and firm in consistency. The whole of the group forms an area five centimetres wide, surrounded with blood infiltration.

In the pathological institute it was reported that a pure culture of bacillus coli communis was obtained. Microscopical preparations showed no other organism in the kidney. There were pus infiltration and numerous abscesses. In the interstitial tissue were œdema and fresh blood. The renal epithelium was swollen. The canals contained numerous pus cells. The diagnosis was suppurative nephritis.

Lennander records in the same paper five further cases in which multiple abscesses of the kidney were treated by splitting, partial resection, and drainage. All were operated on within six days of their onset and a similar condition of the kidney was found and in several pure cultures of bacillus coli communis were isolated. I do not, however, propose to narrate them here, as in every case some obstruction of the urinary passages existed or long-standing bladder disease for the most part due to urethro-vaginal fistulæ.

This group of cases is, however, interesting as a connecting link between the well-known surgical kidney due to dilatation and subsequent infection of the urinary passages and the very rare class of case to which I wish to draw attention in which a very virulent form of bacillus coli communis is able to ascend normal urinary passages and to produce multiple miliary abscesses of the kidney. Lennander pointed out that these acute ascending infections of the kidney were often unilateral and that their acute but transient character made it possible to treat them successfully by nephrotomy, partial resections, and drainage, for the disease rapidly tends to clear up. This would, of course, be the only possible course to pursue where both kidneys were affected. On the other hand, Dr. Brewer, who has treated several unilateral cases by Lennander's method, had such unsatisfactory results that he is strongly in favour of nephrectomy.

CASE 5. *Splitting of the kidney in acute pyelonephritis with miliary abscesses.*[4]—The patient, a woman, aged 23 years, was taken ill suddenly on April 13th, 1901, with strangury and burning pain on micturition. Three days later she had sudden and severe pain in the right loin with pyrexia. Six days after the onset she came under observation when her condition was as follows. Her temperature was 39·8° C. and her pulse was 130 per minute. She was not vomiting. The right side of her abdomen was rigid and tender. The right kidney was felt much enlarged. Her urine contained some albumin and a few casts and deposited pus cells but no blood. In spite of the exhibition of urotropin and the "drink cure"

[1] G. H. Brewer: Transactions of the New York Surgical Society, Oct. 26th, 1904, reported in the Annals of Surgery, December, 1904, p. 1010.

[2] Medical Record, New York, 1905, vol. lxvii., p. 241.

[3] Lennander: Nordiskt Medicinskt Arkiv, 1901.

[4] Dr. Wilms, Leipsic: Münchener Medicinische Wochenschrift, Band xlix., No. 12, p. 476.

the temperature varied between 39° and 40·6° C. and the pyrexia continued. The operation was a nephrotomy. Through a small incision the two halves of the kidney were separated by the finger and a blunt instrument, so avoiding hæmorrhage. The pelvis was opened with scissors. A gauze drain was placed in the pelvis and another around the kidney. All superficial abscesses were opened and drained. The patient did very well. The exudation from the wound was clean. The temperature fell to normal at once. On the third day it rose to 39° C. on account of a parotitis and reached normal gradually in two weeks. The gauze was gradually extracted during three weeks. The patient was out of bed in five weeks. The fistula closed in eight weeks. The urine was then clear, contained no albumin, and only a few isolated leucocytes. The kidney through the capsule showed a number of small whitish abscesses of the size of peas. In the kidney parenchyma were whitish striped zones which showed the course of the pus infection in the kidney. The pelvis was filled with slightly turbid urine and the vessels were injected. The pelvis was somewhat dilated. The pus in the kidney abscesses gave a pure culture of bacillus coli communis.

CASE 6. *Acute renal suppuration.*[5]—The patient, a woman, aged 20 years, was admitted to the Roosevelt Hospital on August 6th, 1902. "No history could be obtained in this case that threw any light on the manner of infection and the case is further peculiar in that there were no symptoms referable to the kidney until the day before admission." Just after the noonday meal on the day before admission the patient had frequent desire to urinate, scalding micturition, and small quantities of urine were passed at a time. She also had a sharp shooting pain in the right lumbar and iliac regions, with vomiting and sweating. When admitted to hospital her temperature was 101·6° F. and her pulse was 100 per minute. The abdomen was not distended. The right rectus and quadratus were rigid. Marked tenderness was present over the right kidney and over the appendix. The urine was alkaline, of specific gravity 1030, and contained a few pus cells. No tubercle bacilli were present. The temperature varied from 99° to 102·6°. On August 8th it shot up to 106°. Leucocytosis was 8000 per cubic millimetre on admission and 9000 per cubic millimetre on August 8th. Nephrectomy was performed on August 9th. Under anæsthesia a mass was felt like an enlarged kidney. Laparotomy was performed through the outer part of the rectus sheath. The left kidney was examined and appeared to be normal. Right lumbar nephrectomy was then performed. There was little disturbance after the operation. The temperature varied under 101° for four days and then became normal. The patient was discharged on Sept. 12th with a superficial granulating area. The kidney had no pus around it. It was large and contained numerous cavities filled with pus and there were numerous foci of pus throughout the parenchyma. The ureter was greyish and was filled with pus and appeared gangrenous. Histological examination of the ureter revealed chronic hypertrophic inflammation.

The micro-organism responsible for this disease is apparently the bacillus coli communis. It was found in pure culture in the kidney in Lennander's and Wilm's cases. A bacteriological examination was unfortunately omitted in the other four cases. Moreover, as already stated in a series of five further cases by Lennander in which an exactly similar condition of the kidney was found but complicating pre-existing disease of the lower urinary tract, this bacillus was found in several cases.

It is most interesting to note that the bacillus coli communis displays the same wide variations in virulence in urinary diseases which have always characterised it in the alimentary canal. Of the latter it is a normal inhabitant and is perhaps essential to colonic digestion. When it becomes pathogenic it produces in a *crescendo* of virulence gastro-enteritis, sloughing and gangrene of the appendix and other structures, and some of the acutest forms of septicæmia. Similarly, in the urinary tract it is found in every degree of virulence. In the condition known as bacilluria it is almost tolerated by the urinary tract with only a slight degree of irritation without any general deterioration of health. In a rather more virulent form it is a common cause of subacute cystitis and pyelitis in such obstructive urinary diseases as urethral stricture, prostatic enlargement, and the pyelitis of pregnancy, but when the obstruction is removed the inflammation readily subsides. In a more malignant form we find this same micro-organism producing surgical kidneys and destroying life in a few weeks. Finally, as this series of cases has demonstrated, the bacillus coli communis may be so virulent as to ascend a normal urinary tract and produce hæmorrhagic abscesses in a healthy kidney.

Symptoms.—If it is permissible to sketch the symptomatology of a disease from six cases the symptoms of this would appear to be as follows. A woman, or less frequently a man (in the cases recorded here the proportion was 5 to 1), is suddenly seized with a severe scalding pain on micturition and with frequency. These symptoms rapidly increase until a condition of strangury exists. The urine is turbid with leucocytes and desquamated epithelium but as a rule it remains acid or neutral. The condition rapidly becomes worse and pyrexia appears. On the second or third day of the attack the involvement of the pelvis and the kidney is indicated by pain and rigidity in the upper part of the abdomen and the loin, by an increase in the pyrexia, by rigors and vomiting, and by the appearance in the urine of large pear-shaped cells and of casts and of more albumin than can be accounted for by the pus. A few red corpuscles may also be present. During the next two or three days the symptoms of urethritis and cystitis abate and the renal signs become dominant. The patient's condition is one of profound septic poisoning and prostration. The pyrexia is sustained and varies from 102° to 105° F. A tumour appears in the region of the infected kidney and the abdominal wall is tender and rigid in the loin, the flank, and the subcostal region. This tumour was on the right side only in all the cases recorded above and was several times suspected to be an appendix abscess.

I have met no record of a case which has been left without surgical treatment but I suppose death would follow in from 14 to 21 days from septic poisoning. In a few cases a perinephritic abscess might form and be evacuated safely but this must be very rare.

Treatment.—This will depend on whether the infection is unilateral or bilateral. I have not been able to find a record of any bilateral case. When only one kidney is involved it would seem better to expose it through the loin and when it has been seen to be engorged and covered with subcapsular hæmorrhagic abscesses rapidly to excise it. This treatment was followed by immediate cure in four of the six cases recorded above. On the other hand, Cases 4 and 5 recovered with the more conservative measures of splitting, partial resection, and drainage. This method should probably be reserved for slight cases in which the infection is confined to one or two areas and for all bilateral cases. It must be noted, however, that Dr. Brewer lost one or two unilateral cases through following this method and is in favour of nephrectomy in all such cases. After nephrectomy the cure is immediate and complete. The temperature falls to normal in a few hours and does not rise again. The pyuria ceases and the toxæmia disappears. The wound does not suppurate.

General pathology of renal infections.—The paths by which the kidney may be infected are through (1) the blood; (2) the lymphatics; or (3) the urinary passages. Very rarely it may be reached by extension to it of an inflammation, such as from the colon or a retro-colonic appendix abscess.

1. *Infection of the kidney through the blood stream.*—Such infections are seen in some cases of tuberculosis of the kidney and in pyæmia. In tuberculosis the infection may take the form of either an acute miliary infection or of chronic tuberculous foci such as are seen in the strumous kidney of children, but in either case the infection is perivascular and starts as a round-celled infiltration around the vessels of the kidney. In systemic pyæmia, such as in a case of ulcerative endocarditis, the manner of infection is somewhat different although still vascular in origin. Small infective emboli are carried by the blood stream and become impacted usually in the interlobular arteries. Thrombosis and infarction follow and the area, deprived of its blood-supply, is readily invaded by the micro-organisms contained in the embolus. Such infections affect both kidneys and as a rule other organs, such as the spleen, the liver, or the brain, and are associated with the general symptoms of pyæmia. It would appear, moreover, that the kidney possesses the function of secreting certain micro-organisms, the commonest of which are the bacillus typhosus and the bacillus coli communis. In typhoid

[5] Joseph A. Blake: Some Problems in the Major Surgery of the Kidneys, with a report of cases, New York Medical News, vol. lxxxii., 1903.

fever a vast number of bacilli are secreted in this way and render the urine as liable to spread infection as the fæces. In most cases no urinary symptoms are produced, but every degree of nephritis, pyelitis, cystitis, and urethritis may result from the presence of this micro-organism. The condition of bacilluria is due to the presence of bacilli coli communes in the urine where, owing to their motility, they may readily be seen in a fresh specimen of urine under the sixth power of a microscope. The symptoms are seldom severe in uncomplicated cases and consist of frequency and some pain on holding urine and on passing it. It is a not uncommon cause of nocturnal incontinence in children. The urine is acid and nearly clear but usually shows a more or less well-marked cloud on standing a short time. This cloud under the microscope is found to consist of desquamated epithelial cells (hence the name "epithelial cystitis") and the motile bacilli already referred to. Renal signs are seldom present. The condition is nearly always associated with constipation which in some cases is so well marked as to merit the term "coprostasis."

It would appear that in abnormal circumstances and perhaps in connexion with stercoral ulceration the bacillus coli may be absorbed from the alimentary canal and that it is then secreted from the kidney and if in excess it may cause signs of irritation along the whole urinary tract. The proof of this would appear to be that whilst an ordinary infection of the bladder and pelvis of the kidney from below in which the urine remains acid is readily cured by rendering the urine alkaline with potassium citrate these cases of bacilluria are not benefited by this treatment. If, however, the alimentary tract is thoroughly cleared out once a week with calomel they at once yield to the treatment but show a great tendency to relapse as the purgative treatment is discontinued. Malgaigne[6] was, however, of opinion that bacilluria was due to an infarct of the kidney in spite of the absence in nearly all cases of renal symptoms.

I have discussed this matter at some length because it might be held that in some at present obscure circumstances a shower of micro-organisms might gain admittance to the blood and without producing constitutional signs might be secreted from the kidney in a similar way, with this difference however—that finding a suitable nidus in the cortex of that organ they might there produce multiple acute abscesses and just such cases as those narrated above. This appears to have been the view taken by Dr. Brewer of Case 3. I do not think, however, that this explanation can be admitted, for it is hard to credit that the micro-organism could be secreted from one kidney only and leave the other intact and as very clearly comes out in the majority of the cases recorded above the renal suppuration was preceded for a day or two by acute urethritis and cystitis.

2. *Infection of the kidney through the lymph stream.*—The anatomy of the lymphatics of the urinary and genital organs is a most fragmentary and uncertain matter. Even a monograph devoted to the subject like that of Poirier, Cuneo, and Delamere, translated and edited by Cecil Leaf, is of very little use in the elucidation of the spread of infectious and malignant growths. Apparently the method of injection is too crude; only short stretches of lymphatic trunks and the glands to which they go can be injected and these are described in fragments as they are discovered. Pathology does not apparently exist for the lymphatic anatomist. He knows nothing of the everyday spread of tubercle from the epididymis to the vesiculæ seminales and from these to the ureter and kidney. Apparently there is a subcapsular network of lymphatics which sends branches into the cortex of the kidney and others into the fatty capsule around. This subcapsular network is connected at the hilum with the lymphatics of the ureter and these at their lower end with those of the bladder, prostate, and vas deferens, and through these with the epididymis. It is common knowledge that tubercle may first appear in the epididymis and then infect the vesiculæ and prostate and finally produce cortical deposits in one kidney, even when the mucous membrane of the urinary tract appears normal. It would therefore seem feasible that other micro-organisms might enter these lymphatics in their lower parts and pass by them to the cortex of the kidney, producing there such lesions as have been described in the above cases. Such cases have, indeed, been described as following the operative treatment of urethral stricture. This matter is further complicated by indications that the infection may habitually select certain lymphatic paths. Thus sarcoma of the testicle passes along the lymphatics accompanying the spermatic veins and forms its secondary deposits in the lumbar glands around the hilum of the kidney, whilst on the other hand tubercle starting from the globus major passes apparently along the coverings of the vas deferens to the vesiculæ and prostate and only secondarily involves the kidney. No such point of infection was, however, discovered in any of the above cases.

3. *Infection of the kidney along the urinary tract.*—I propose to discuss first the means by which the passage of micro-organisms up the urinary passages is normally prevented; then to consider the common ways in which these means are circumvented and in which the ordinary cases of urinary sepsis come about; and, finally, to discuss the instances in which micro-organisms can pass up a normal urinary tract. To the latter class the cases which I have narrated appear to belong.

The means by which the passage of micro-organisms up the urinary tract is normally prevented.—The urinary tract may be regarded as three cavities—the two pelves of the kidney and the bladder—separated from one another and from the surface of the body by long narrow tubes. The urethra undoubtedly guards the bladder from infection. This is proved by the fact that cystitis, apart from gonorrhœa, is so much more common in women who have a short urethra than in men who have a long one. It may, however, be argued that in women the mouth of the urethra is always moist and is frequently exposed to infection from vaginal discharges and I would urge that this is the reason why five out of six of the cases of the disease under discussion were women. The urethra is a narrow tube, so that during the passage of urine there is a good scour. The importance of this for the maintenance of cleanliness in drains and sewers is a subject well understood in hygiene. It is, moreover, provided with a muscular wall which at the end of micturition by peristaltic waves clears its lumen of the last drop of urine and afterwards diminishes that lumen practically to the point of obliteration. Its deep end is closed by the tonically contracted sphincter of the bladder which only relaxes at intervals to once more sweep the tube below it clear of all possible contamination. The proof that the sphincter plays an important part in guarding the bladder from infection is provided by the two common obstructions to the escape of urine from the bladder—viz., stricture of the urethra and enlargement of the prostate. These obstructions differ in that the enlarged prostate obstructs the stream above the sphincter, which is therefore left to guard the bladder as usual. In the case of a stricture, however, the obstruction is below the sphincter, which is, as a consequence, more or less dilated and disordered in its function. Accordingly we find that cystitis is not uncommon in cases of stricture even when no instrument has been passed, whilst in the case of enlarged prostate it is the exception until an instrument has carried the micro-organism past the sphincter. The bladder is undoubtedly more susceptible to infection and bacterial decomposition than the urethra because of the relative stagnation of its contents. Its anatomical arrangement and its muscular coats, however, provide that it shall be completely emptied at frequent intervals. It is probably an acquired adaptation to environment that this frequency is greatly increased when the bladder is infected and that in the condition of strangury the cavity is practically obliterated and the aseptic urine flows from the ureteral orifices in rapidly recurring peristaltic waves over the infected surfaces. The ureters may be regarded as further guards interposed between the bladder and the kidneys to render infection of these vital organs still more difficult. They are even better adapted for this work than the urethra. They are longer, narrower, and are swept by a rapid peristaltic wave and completely emptied some 14 times a minute. Their efficiency is proved by the fact that cystitis, though so frequent in women, is seldom followed by surgical kidneys. This is because obstruction is uncommon in them and the ureters are therefore efficient and rarely dilated. When we do encounter infection of the kidneys in women it is because the function of the ureters has been interfered with by the pregnant uterus, fibroids or carcinoma of the bladder or cervix, or a calculus impacted in the ureter. The pelvis of the kidney is a smaller cavity than the bladder and probably empties itself more frequently. It is, however, very irregular in outline and this accounts for the fact that once

[6] Archives Générales de Médecine, 1896, vol. ii., p. 722.

infected it is longer in freeing itself from that infection than the bladder. Moreover, the urine enters it in a continuous stream from many points and not in intermittent gushes from two as in the case of the bladder or one as in the case of the urethra. The value of an intermittent flow is well illustrated in automatic flushing tanks and cisterns.

The composition of normal urine is unfavourable to the growth of most of the organisms which produce cystitis. Doubtless the acidity of urine fulfils other functions, such as keeping earthy phosphates in solution, but it is in addition unfavourable to the growth of all the common micro-organisms of cystitis except the bacillus coli. If to a prostatic case with alkaline cystitis we give sufficiently large doses of acid sodium phosphate to change the reaction of the urine the micro-organisms will disappear with the exception of the bacillus coli communis and the cystitis will clear up. Dr. A. E. Wright informs me that the bacillus coli grows by preference in alkaline or just neutral media but in common with all this race of bacilli it can grow in acid urine and does not render it alkaline. There are certain indications, moreover, that normal urine contains some factor inimical to the growth of micro-organisms, and this factor belongs perhaps to the class of opsonins which have been found in the serum and other fluids of the body. Dr. Wright believes that such an antibacterial factor exists in the urine and he has kindly written me that he has found on several occasions "that bacteria will grow infinitely more readily in urine of a coli cystitis case than in normal urine. Whereas in the one case 24 hours' incubated urine will contain, say, 300–400 million per c.c., normal urine 24 hours incubated will contain only the same number of thousands." The conclusion to be drawn from this observation is apparently either that the absence of the antibacterial factor leads to the coli cystitis or that the bacillus coli by its growth had exhausted that factor. In any event it would appear that some factor exists which renders normal urine unfavourable for the growth of micro-organisms and assists in maintaining the asepsis of the urinary tract.

The ways in which these means are circumvented and the ordinary cases of urinary sepsis come about.—We have seen that the three great means of protecting the kidneys from bacterial invasion from below are: (1) the small lumen of the urinary passages which secures an efficient scour; (2) the complete emptying of cavities and tubes at frequent intervals of the putrescible urine; and (3) an intermittent flushing from above by a sterile fluid. All these means are circumvented by an obstruction which dilates the urinary passages and cavities. The best marked instance is that of a stricture which has produced retention with overflow in a case in which the ureters and kidneys are already dilated. Here a continuous stagnant chain of urine extends from the kidney to the septic trousers sodden with incontinence. In lesser degrees and earlier cases of stricture the urethra is dilated behind the stricture and this pouch fails to empty itself after micturition. Leakage slowly occurs along the urethra after urine has been passed and the pouch becomes infected. By this means septic decomposing fluid is held against the mouth of the sphincter vesicæ continuously, and as this sphincter has already been dilated and stretched during efforts at micturition it soon allows the passage of these micro-organisms to the urine in the bladder. The bladder, partly through atony of its muscular wall and partly through pouching, never completely empties its cavity and a continuous culture of micro-organisms is thus maintained at the orifices of the ureters. The urine no longer gushes from these in frequent forceful jets. The orifices are dilated. The tubes themselves are wide, sinuous, and their muscular coat is quite incapable of emptying their cavities. The sepsis spreads from pond to pond in the varicosities of the ureter and with the greatest ease reaches the irregular and often huge cavity of the pelvis of the kidney. For a time the continuous flow of aseptic urine down the discharging tubules will protect the cortex from infection, but as the pyramids are destroyed by pressure and these tubes are consequently shortened, and as interstitial nephritis obstructs their lumen at numerous points, the sepsis spreads up them and finally the vital renal substance becomes infected. The history of urinary infection in a case of prostatic enlargement is very similar but, as has already been pointed out, the sphincter and the urethra are here intact and as a rule preserve the urinary tract above the obstruction from infection until the passage of a catheter pushes septic matter bodily past these protecting structures. Then sepsis often spreads with tragic rapidity to both kidneys. Cases of obstruction of the ureters as by calculi are even better protected but not infrequently become infected in women, as in a case that I had under my care in which double pyonephrosis was produced by stones obstructing both ureters and was cured by removing these calculi.

Instances in which micro-organisms invade a normal urinary tract.—The commonest example is, of course, the gonococcus but the spread of this micro-organism is often arrested by the sphincter and it seldom passes beyond the bladder. The class of case which we are now discussing appears to me to provide a second example of a micro-organism capable of ascending a normal urinary tract in spite of all safeguards. My reasons for regarding these cases as ascending infections are as follows: 1. The majority of the cases commenced with urethritis and cystitis. 2. The microscopic examination of the wedge-shaped areas of inflammation in the cortex showed that they were in the lobules and not between the lobules. Moreover, these cases can scarcely be hæmatogenous since: (1) no source of infection was found; (2) the other kidney escaped and all other organs; and (3) their immediate recovery after nephrectomy showed that septicæmia was not present. It is difficult to show that they were not lymphatic in origin for, as has already been pointed out, our knowledge of the lymphatics of the kidneys is obscure. A point of infection in the lower urinary tract would, however, appear essential to a lymphatic infection.

The bacillus coli communis in these cases probably travels along the mucous membrane as the gonococcus does and not along the urine filling the passages as is usually the case in ordinary obstructive infections. The reaction of the body to the invasion appears to be very acute and efficient, for the micro-organism in any part of the lower urinary tract appears to be completely overcome in three or four days. This compares favourably with gonorrhœal invasion of the urethral mucous membrane or influenzal invasion of the respiratory tract. The spread of the micro-organism is partly by division and multiplication and partly due to its motility, but one cannot help recalling the most interesting experiments of Mr. C. J. Bond of Leicester recorded in his address on Surgery at the meeting of the British Medical Association in July, 1905. He applied sterilised indigo granules to the orifices of various mucous passages and found that the granules were somehow transmitted up these passages in the face of the natural stream of contents and after a day or two could be identified at various distances above. Thus indigo applied to the lips of the uterus was found a day or two later in a pyosalpinx or, in other cases, even in the peritoneum around the ostium abdominale. Indigo placed in the rectum was found in a cæcotomy wound three days later, although the bowels had been opened in the interim. Perhaps micro-organisms are in part conveyed from the meatus to the kidney by similar means, whatever these means may be.

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INTRAVITREOUS HÆMORRHAGES.

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THE occurrence of large hæmorrhages in the retina and into the vitreous in a seemingly spontaneous fashion is frequently met with in ophthalmic practice. That such hæmorrhages occurred in young people who to all outward appearance were in perfect health was a fact to which Mr. H. Eales of Birmingham first called attention in the year 1880. Mr. Eales described the cases as occurring in healthy young men. We have given here two cases in young women as they presented clinically the same features and showed the same changes in their blood. We have recently had the opportunity of seeing four such cases and of examining the blood by methods devised by Dr. A. E. Wright, whom we must thank for his kind advice and coöperation in the work. One of us (L. P.) is responsible for the clinical notes while the examinations of the blood were made by the other of us. It will be convenient to begin by giving a short history of the cases from the point of view of the ophthalmologist.

CASE 1.—On Tuesday, Sept. 6th, 1904, a patient (a medical man) came to see me (L. P.) who on the previous Friday

had caught cold which brought on coryza with some conjunctivitis. On the Sunday evening a sudden dimness had come over the left eye when he was stooping to pick up some music, and on the Monday morning the lower part of the field of vision of his left eye was cut off by a floating opacity. On examination I found a definite limited scotoma in the lower outer quadrant of the left field and in the fundus of the left eye there was a large hæmorrhage extending along the line of the upper nasal vessels, and where these joined the disc to the inner side there was a somewhat globular hæmorrhage seemingly in front of the retina but subhyaloid. Into the vitreous itself there was only a very slight hæmorrhage which seemed to lie along the line of Stilling's canal. The retinal hæmorrhage was of very large extent, stretching for many disc-breadths along the line of the upper nasal vessels. I could not tell from appearances whether it had been arterial or venous in its origin. The right fundus showed nothing. I asked the patient at that time to investigate his family history carefully to find whether there was any hæmophilic tendency in any member, and he did find that a great-great-great-grandfather had died from bleeding after a tooth extraction, so that could not be regarded as very definite evidence. I told him to rest as much as possible, on no account to take any violent muscular exercise, and to use mercury in some form and iodide of potassium. Unfortunately the exigencies of his profession called on him to ride a long distance one evening and the result was an immediate increase of the hæmorrhage and when I saw him again on Oct. 3rd the vitreous of the left eye was full of blood and only a faint red reflex could be obtained at some parts of the periphery. Still harping on the possibility of this being of a hæmophilic origin, and with a view to raise the coagulation point of the blood by free purging and calcium salts, I asked Dr. Wright to examine his blood, when to my astonishment it was found that the coagulation was three times faster than normal and that the proportion of calcium salts was distinctly above normal. As the patient lived a considerable distance away it was impossible to watch the effects of various drugs in reducing the rate of coagulation.

In connexion with the following cases I have had an opportunity of following their course.

CASE 2.—The patient, a woman, aged 27 years, went to Mr. R. Marcus Gunn's clinique at the Royal London Ophthalmic Hospital (Moorfields) on March 1st, 1905. Her history was that eight years previously she had had a hæmorrhage into the vitreous of the left eye and was quite blind for a time, but by the end of six months the sight had become completely clear again and had remained so till the middle of January of this year, when she had again become blind in the left eye. On examination the right eye was found to have visual acuity $\frac{6}{9}$ Snellen, and normal fundus and vessels. The pupil of the left eye contracted to direct stimulus—but the contraction was not well maintained; the contraction to consensual stimulus was good and well maintained. The vitreous was quite full of hæmorrhage, no red reflex being obtainable in any part. I had the patient's blood examined that afternoon and it was found that it clotted in 1 minute 35 seconds and that the calcium salts were equivalent to $\frac{1}{1000}$ solution of oxalate of ammonium. It will be seen here that the rate of clotting was not very great, though it was distinctly above the average, and it must be remembered that in this case the first test was made seven weeks after the hæmorrhage had occurred, that the hæmorrhage occurred at a menstrual period, and that when the menstrual periods occurred the rate of coagulation was very sensibly increased.

CASE 3.—The patient, a woman, aged 34 years, gave a history which was somewhat similar to that recorded in Case 2. She had first of all had a hæmorrhage into the vitreous of the left eye six years previously when she was quite blind for two months. By the end of two years this hæmorrhage had cleared up fairly completely. A second attack had come on 12 months previously, and the present attack had commenced nine days before I saw her on March 1st, 1905. On that day the vision in the right eye was $\frac{6}{9}$ Snellen and the fundus and vessels were normal. The left eye had no vision but the pupil reactions were normal. The vitreous was completely filled with hæmorrhage. The rate of clotting taken that afternoon was 50 seconds and the calcium salts were reduced by a dilution equivalent to $\frac{1}{1200}$ of oxalate of ammonium.

The further history of Cases 2 and 3 runs on very similar lines. For the first two or three months there was very little improvement in visual acuity, then gradually they began to be able to see fingers, and at the present time the patient in Case 3[1] is able to see $\frac{6}{12}$ Snellen and the patient in Case 2 to count fingers easily at a distance of a few feet and excentrically is able to see $\frac{6}{18}$ Snellen. In both there is a partial restoration of the red reflex from the fundus but no fundus details are visible.

CASE 4.—The patient was a male (and in consequence free from the complications arising from menstruation), aged 23 years. For permission to examine him I am indebted to Mr. S. H. Fisher who had seen him in a previous attack, at which time (March, 1904) he had been treated with calcium chloride. The attack in March, 1904, had been of little severity, though vision was reduced to perception of light and the whole duration to complete restoration of vision was not more than six weeks. Nor was the attack in which I saw him of very great severity. He always retained perception of light, though the vitreous seemed full of hæmorrhage. I saw him first on March 15th. At that time the rate of clotting was 1 minute 10 seconds and the calcium salts were equivalent to $\frac{1}{1000}$ solution of oxalate of ammonium. Citric acid very speedily brought down the rate of coagulation to 2 minutes 25 seconds and then to 2 minutes 40 seconds. In the course of a month his vision had improved to $\frac{6}{9}$ in the left eye and the hæmorrhage had disappeared from the vitreous, leaving only a long greyish process which passed forward from the centre of the disc into the vitreous, coming almost up to the back of the lens and seemingly running along the line of the hyaloid canal.

In describing these four cases I have not entered into any details of the variations in the clotting point produced by citric acid, but I think the results are striking enough to warrant further investigation of the blood in such cases and the adoption of a different method of treatment from that usually pursued if a recurrence is to be prevented. Obviously it must be wrong to treat such cases with doses of calcium salts when the clotting point is already too high. Yet there are some cases in which a low rate of coagulation may be found at times. As to what actually causes the outflow of blood from the vessels we are still in the dark, but Dr. Wright's suggestion that it is due to thrombosis in some small vein seems to me at present to be most probable.

EXAMINATION OF THE BLOOD.

In dealing with vitreous hæmorrhages an examination of the blood was made by me (W. E. P.) with regard to the rate of coagulation and the content of calcium salts. The method used was that devised by Dr. Wright and described by him in THE LANCET.[2]

Table showing the Results of the Preliminary Blood Examination.

Case.	Date of examination.	Coagulation time.	Dilution of ammonium oxalate made up in physiological salt solution which just sufficed to complete decalcification of the blood.
2	March 1st, 1905.	1 minute, 35 seconds.	1 in 1000.
3	March 1st, 1905.	50 seconds.	1 in 1200.
4	March 15th, 1905.	1 minute, 10 seconds.	1 in 1500.

With these data it seemed expedient, instead of following the course which is often taken of administering calcium, that in view of the presence already in the blood of a quantum of calcium which was in excess of the normal the opposite direction should be aimed at by the exhibition of a decalcifying agent such as citric acid. We were the more inclined to follow this course by the details already published by Dr. Wright, that in typhoid fever when the content of the blood in lime salts was great and the coagulation time of the blood therefore rapid thrombosis was common and was to a certain extent prevented by the exhibition of a decalcifying agent.

The data with regard to the examinations of the blood during treatment are set forth below. In the cases recorded

[1] Since writing the above this patient has had another slight hæmorrhage into the vitreous and on investigating the coagulation time within a day or two of its occurrence it was found to be 30 seconds.

[2] THE LANCET, Oct. 14th, 1905, p. 1096.

we were unable to prolong the decalcifying effect of the citric acid until such time as the hæmorrhage cleared up.

CASE 2.—The patient was suffering from hæmorrhage into the left vitreous. March 1st, 1905: Coagulation time, 1 minute 35 seconds. Complete decalcification with a dilution of 1 in 1000 of oxalate of ammonium. Two drachms of citric acid were administered three times a day. 15th: Coagulation time, 1 minute 7 seconds. Complete decalcification with a dilution of 1 in 1800 of oxalate of ammonium. 20th: Coagulation time, 2 minutes. Complete decalcification with a dilution of 1 in 1400 of oxalate of ammonium. April 12th: Coagulation time, 2 minutes 40 seconds. Complete decalcification with a dilution of 1 in 1500 of oxalate of ammonium. 28th: Coagulation time, 55 seconds. Complete decalcification with a dilution 1 in 1050 of oxalate of ammonium. May 10th: Coagulation time, 1 minute 30 seconds. Complete decalcification with a dilution of 1 in 750 of oxalate of ammonium. 24th: Coagulation time, 1 minute 27 seconds. Complete decalcification with a dilution of 1 in 1200 of oxalate of ammonium.

CASE 3.—The patient was suffering from hæmorrhage into the left vitreous. March 1st, 1905: Coagulation time, 50 seconds. Complete decalcification with a dilution of 1 in 1200 of oxalate of ammonium. Two drachms of citric acid were administered three times a day. 15th: Coagulation time, 50 seconds. Complete decalcification with a dilution of 1 in 2000 oxalate of ammonium. 29th: Coagulation time, 2 minutes 5 seconds. Complete decalcification with a dilution of 1 in 1400 oxalate of ammonium. April 12th: Coagulation time, 2 minutes 25 seconds. Complete decalcification with a dilution of 1 in 1500 oxalate of ammonium. 26th: Coagulation time, 2 minutes 5 seconds. Complete decalcification time with a dilution of 1 in 1200 oxalate of ammonium. May 10th: Coagulation time, 1 minute 45 seconds. Complete decalcification with a dilution of 1 in 1050 oxalate of ammonium. 24th: Coagulation time, 55 seconds. Complete decalcification with a dilution of 1 in 700 oxalate of ammonium.

CASE 4.—The patient was suffering from hæmorrhage into the vitreous. March 15th, 1905: Coagulation time, 1 minute 10 seconds. Complete decalcification with a dilution of 1 in 1500 of oxalate of ammonium. One drachm of citric acid was administered three times a day. 22nd: Coagulation time, 2 minutes 25 seconds. Complete decalcification with a dilution of 1 in 1600 of oxalate of ammonium. April 5th: Coagulation time, 2 minutes 40 seconds. Complete decalcification with a dilution of 1 in 1200 of oxalate of ammonium. 19th: Coagulation time, 2 minutes 10 seconds. Complete decalcification with a dilution of 1 in 1000 of oxalate of ammonium. May 17th: Coagulation time, 1 minute 37 seconds. Complete decalcification with a dilution of 1 in 1050 of oxalate of ammonium.

THE USE OF PLASTER-OF-PARIS SPLINTS IN THE TREATMENT OF FRACTURES OF THE LEG.

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THE use of plaster of Paris in the treatment of fractures of the leg is a great convenience to the surgeon, particularly in hospital practice. The pressure on the beds of most general hospitals is often so great that it is necessary to discharge the patients from the wards as soon as it can be done with safety. Once in plaster the fracture is immobilised and may be expected to unite in the course of time in the position in which it was put up. The patient, too, is usually anxious to be released from confinement to bed and to be going about on crutches with his leg in plaster. On the score of convenience we cannot dispense with plaster of Paris in the treatment of these cases unless it be shown that the disadvantages attending its use are serious and unavoidable.

Plaster is used in two forms; as a closed case made with bandages impregnated with plaster and as splints made from some shaped material soaked in plaster cream (Croft's and Bavarian splints). The special disadvantages attaching to the plaster case are that it is difficult to remove and that it loses much of its rigidity when it is "cut up." Removal of the case may be necessitated by swelling of the limb if the plaster has been applied soon after the occurrence of the fracture, or at a later period for shrinkage of the limb and consequent loosening of the case. In either case the application of a fresh plaster will probably be required. To facilitate the cutting up of the case a string may be placed underneath it between the plaster and the flannel bandage surrounding the limb, by means of which a wire or Gigli's saw may be pulled through, with which the case may be divided down the front. Another method is to place a strip of block tin along the front of the leg beneath the plaster, on to which one can cut with a penknife without danger of damaging the patient's skin. In any case, the plaster is apt to be spoiled by being cut up.

Bavarian or Croft's splints get over the difficulty of removal to a certain extent. Their inefficiency in many cases is due to the material of which they are usually made (house flannel soaked in plaster cream). This makes a poor splint, deficient in rigidity, and apt to crumble. Another great disadvantage of the forms of plaster in common use is the uncertainty as to the position of the fragments when the case has been applied. Owing to the manipulation of the limb attending the application of the bandages and the frequent shifting of the hands of the assistant holding the limb it is very easy for the fragments to become displaced and the displacement will only be discovered when it is too late to rectify it—i.e., after the plaster is removed. Another objection to plaster to which much attention has been directed recently is the amount of matting of the soft parts and stiffness of the joints following rigid confinement of the limb in plaster. What is required, therefore, is some form of plaster (1) made of sufficiently rigid and durable material; (2) applied without shifting the limb about; (3) readily removeable for inspection or treatment by massage and passive movement of the limb; and (4) which can be opened up without disturbing the fragments or spoiling the case.

I have been using a form of plaster case for the last two years at the Sheffield Royal Hospital which I consider fulfils all these requirements.

Material.—Gauze such as is used for making gauze bandages is employed. The splints consist of from eight to 12 folds of this gauze, between the layers of which dry plaster is well rubbed in. Before applying they are immersed in warm water, squeezed out, and then more dry plaster is rubbed into their inner surfaces. No plaster cream should be employed. If the plaster is well baked splints made in this way set very quickly and firmly and are very durable.

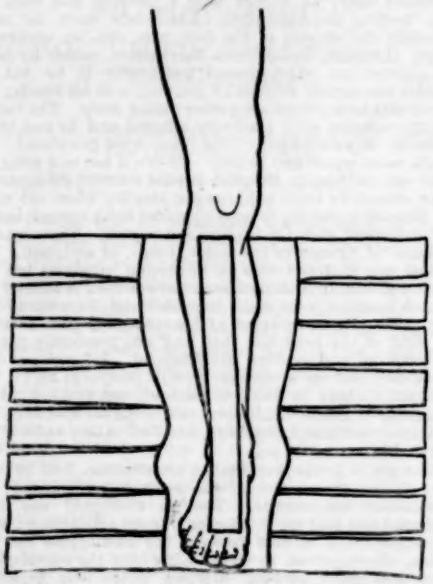
Reduction of swelling.—If the limb is much swollen elastic compression is applied to reduce the swelling as a preliminary measure. The limb is wrapped from the toes to above the fracture in layers of non-absorbent wool of a thickness of at least one inch and over this an elastic bandage is applied in simple spirals. The limb is then bandaged on to a back-splint with foot-piece. The swelling will usually have subsided in three or four days, though in some cases a week is required. The stiffness of the limb subsequently to the removal of the plaster will be much less if care is taken to get rid of the effusion of blood accompanying the fracture in this manner before applying the case.

Blisters.—After being clipped and the serum squeezed out blisters are dressed with two or three layers of lint wrung out of a saturated watery solution of picric acid which dries the surface, preventing any further discharge of serum.

Method of applying the plaster splints.—Supposing the case to be one of fracture of one or both bones of the leg in the lower third, the plaster splints need only be carried as high as the knee. A pattern of the posterior splint is obtained by laying the *sound* limb on a sheet of paper and cutting round it with scissors. The splint extends from the root of the toes, under the heel, and up the back of the leg to just below the knee. It should be wide enough to embrace about two-thirds of the circumference of the limb. A good width should be allowed at the ankle to accommodate the projection of the heel. The pattern must be turned over so as to reverse the sides in cutting out the splint for the fractured limb (Fig. 1). From 10 to 12 folds of ordinary gauze bandage material should be laid out in a length equal to, and rather wider than, the pattern and cut out to form the posterior splint. This should be laid upon a considerably wider piece of gauze and the whole thickness stitched together down the middle line. Dry plaster should be rubbed in plentifully between the layers of the gauze. The extra width of the outside layer of gauze should now be split into tails on either side of the splint and the tails rolled up so that they may not become "taffied." The posterior splint should now be rolled up from either end on rollers. Two pieces of broomstick answer the purpose. The anterior splint is simply a strip, from three to four inches wide, long enough to reach from the root of the toes to the knee. From eight to ten folds of gauze suffice and the ends should be secured by stitching them together. Plaster is rubbed in as in the case of the posterior splint and the splint is rolled up on a piece of broomstick. The leg should then be bandaged evenly with a single thickness of flannel, a pad of wool being placed on either side above the heel, this being a point on which the splint is likely to cause pressure. The knee should be bent to a right angle and the leg laid upon a support, such

as a deal box. I have had a box made, of the form shown in Fig. 2, which elevates the limb 19, 17, or 15 inches, according to which side is turned uppermost. Both anterior and posterior splints on their rollers are now placed in warm water for a few minutes to moisten the plaster. The surgeon then makes traction from the heel and foot. Counter traction is obtained by passing a clove hitch round the upper part of the thigh and tying

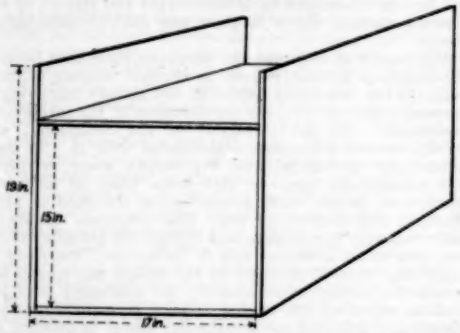
FIG. 1.



Showing position of leg and of splint before application.

to the head of the bed. Flexing the knee to a right angle eliminates one of the chief obstacles to reduction of the fragments by relaxing the gastrocnemius muscle. If the foot is kept at right angles to the leg and the inner side of the great toe in a line with the internal malleolus and the inner side of the patella the fragments will come into correct position on making traction. The

FIG. 2.



Box used to support the leg with the knee flexed to a right angle.

anterior splint is now unrolled and laid along the front of the leg and foot. The posterior splint is removed from the water and well squeezed out. It is then unrolled and laid under the limb. (Fig. 3.) Some additional plaster may be rubbed into its upper surface. Whilst the surgeon keeps up traction and maintains the foot in the correct position an assistant brings the posterior splint round the under surface of the leg and foot and fixes it in position by tying the tails over the anterior splint. It is better to avoid tying the knots directly over the sharp anterior margin of the shin-bone, where they may cause undue pressure. Traction with the foot in the correct position must be kept up until the plaster is set sufficiently hard to prevent displacement of the fragments; three minutes generally suffice. The leg is left for about half an hour lying flexed on the box with a support, such as a thin book, under the heel and hot-water bottles or bricks on either side to hasten the drying of the plaster. After about 12 hours the plaster will be perfectly hard and the patient may then be allowed up on crutches. Unless there is any special reason for cutting up the case it is usually left untouched for about three weeks, when a fair amount of union may be expected to have taken place. It is then cut up with a pair of scissors along the interval between the two splints and subsequently the limb should be removed from the case about twice a week for passive movements of the ankle. After replacing it the splints should be bandaged firmly with a calico roller.

If the fracture is above the lower third of the leg it will be necessary to fix the knee-joint. The splints may be put on in the same way, except that the knee will have to be in the extended position and the splints carried as high as the middle of the thigh.

In fractures the result of great violence, where there is comminution or much damage to the soft parts, rest in bed for a time is essential. Even in this class of case plaster

FIG. 3.

Fracture of both bones of the leg in the lower third. Anterior and posterior splints in position; knee flexed to a right angle.

splints applied in a similar manner offer distinct advantages in the way of complete immobilisation and accurate retention of fragments in position after reduction, a result often difficult to obtain with any other form of splint, whilst the readiness with which the case can be opened up without disturbing the leg in any way allows the condition of the limb to be kept under as close observation as when any other form of splint is used. In this class of case the limb is put up flexed at an angle of from 135 to 150 degrees and the splints should reach as high as the upper third of the thigh. In applying the splints a pad of wool should be placed next the skin of the under surface of the thigh just above the knee-joint, where the pressure of the assistant's hand in making counter extension makes a dent in the plaster, which may chafe the skin unless protected by a pad. Less severe cases of compound fracture may be treated in the same way after thorough cleansing and dressing of the wound, the portion of the case in the neighbourhood of the wound being lined with a piece of thin mackintosh. The only class of case for which the plaster splints are unsuited is severe compound fractures where there is likely to be much discharge or where it may be necessary to employ irrigation.

In the case of oblique fractures, where reduction of the displacement is often difficult and retention of the fragments in the reduced position is more difficult still, the posterior plaster splint answers well. In these cases the anterior splint should be dispensed with, so that the position of the bones during traction on the limb may be observed. When once the displacement is reduced the plaster splint immobilises the fragments more perfectly than any other apparatus. As soon as the plaster is hard the "tails" with which it is tied

on should be cut away and a firm flannel bandage should be applied in place of them, the limb in its case being subsequently fixed on to a Neville's back splint and swung from a cradle. When union is fairly firm an ordinary straight plaster may be substituted for the suspension splint and the patient allowed up on crutches.

Pott's fracture.—One of the most useful applications of this form of plaster case is in the treatment of Pott's fracture. Preliminary treatment by elastic pressure made over layers of cotton-wool is required in most cases, it being particularly desirable to get rid of the effusion in and around the ankle-joint. The pattern for the posterior splint is cut to embrace more of the inner than of the outer side of the leg and foot, so as to leave the fibula exposed. The knee should be bent to a right angle and the leg laid on a box. When this is done there is, as a rule, no difficulty whatever in reducing the displacement. Counter traction may be made by an assistant at the knee, or by passing a bandage round the lower part of the thigh just above the knee, and tying it to the head of the bed. An assistant will be required to hold the leg steady whilst the surgeon manipulates the foot, and another to apply the splints by tying the "tails" of the outside bandage. The splints are first fixed around the leg above the ankle and the surgeon then strongly adducts and inverts the foot, keeping it at the same time at right angles to the leg and pulling it forwards. In this way the outward and backward displacement is corrected. The splints are then fixed round the foot and ankle and the surgeon holds the foot in the correct position until the plaster has set. The ready removeability of the splints is a great advantage in the after-treatment of these cases. I begin passive movement of the ankle at the end of three weeks. Systematic massage to the ankle and leg muscles is most useful. Owing to the number of fracture cases occurring in hospital practice it is practically impossible to employ massage in more than a small proportion of them.

To recapitulate the advantages claimed for this form of plaster case. 1. It is applicable to all cases of fracture of the leg, with the exception of certain cases of compound fracture. 2. Its method of application is simple. 3. It is rigid and durable. 4. It can readily be cut up without disturbing the limb, and can be reapplied without loss of rigidity. 5. It is put on with the limb in the most favourable position for reduction of the displacement—i.e., with the knee flexed and the gastrocnemius relaxed. 6. The position of the leg is not shifted and traction on the axis of the limb is kept up during the whole time of application of the splints. Consequently there is a fair certainty of the fragments being fixed in good position. On the other hand, it must be admitted that the limb does not present quite so neat an appearance when put up in this manner as it does in a well made plaster case applied in the ordinary way. I believe that what is lost in neatness is gained in efficiency.

Sheffield.

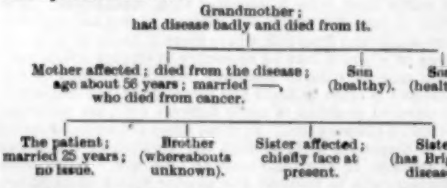
A CASE OF DEMENTIA DUE TO HUNTINGDON'S CHOREA.

BY G. E. PEACHELL, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,

ASSISTANT MEDICAL OFFICER, WEST SUSSEX COUNTY ASYLUM.

THE following case may prove of some interest as the condition is somewhat rare and it is seldom that a necropsy is obtainable, though this failed to throw much light on the pathology of this obscure disease.

A married man, aged 54 years, was admitted into the West Sussex County Asylum on Feb. 18th, 1905, suffering from dementia due to Huntingdon's chorea. His family history was as follows :—


Grandmother; had disease badly and died from it.
Mother affected; died from the disease; age about 56 years; married ——, who died from cancer.
Son (healthy).
Son (healthy).
The patient; married 25 years; no issue.
Brother (whereabouts unknown).
Sister affected; chiefly face at present.
Sister (has Bright's disease).

The disease started in 1896 when the patient was 45 years old. Previously to this he had never been ill. As is usually the case, the irregular convulsive movements were first noticed in the face, then gradually involved the neck and shoulder muscles and spread to the upper and lower extremities, and quite lately the muscles of the tongue and of deglutition became affected. He had been unable to follow his occupation for the last six years and the disease had rapidly progressed during the last six months; recently he had got worse mentally and had become very irritable and impulsive and a source of danger to children on the road. The patient was a tall, fairly well-nourished man; he walked with a swaying gait from the hips, keeping the legs rigid. The whole body, but more especially the left side of the face, arm, and leg, underwent coarse, irregular, incoördinate movements, which he could not control but which ceased temporarily if he put his muscles into action, such as by grasping both his hands; the movements were absent altogether during sleep. The tongue and lip muscles were markedly affected and he had slight difficulty in swallowing. His eyes were prominent; his pupils were equal and active. He could not now write his name but made jerky, irregular strokes when he attempted to do so, though he could hold the pen steadily when not using it. Sensation and the reflexes appeared to be normal and he had command over his bladder and rectum. There was no evidence of disease in the heart, lungs, or abdomen. The patient was dull and slow in answering questions but had much difficulty in articulation and so was hard to follow. His mental faculties were much impaired and his memory was very poor. He complained of headache and pain over the left side of the head and face and was constantly putting his hand up and rubbing his forehead. He was put on a mince diet and an occasional dose of chloral at night. He soon had to take to fluids as he could not swallow mince. He gradually got worse, became very sluggish mentally, and at times irritable and impulsive, and died rather suddenly on March 13th.

Necropsy.—At the post-mortem examination, held 16 hours after death, the skull-cap was somewhat thickened; the dura mater was normal. The pia arachnoid was much thickened and had an opaque gelatinous appearance; there was a good deal of fluid between the membranes and the cortex, allowing them to strip readily from the convolutions. There was much cerebral atrophy which was especially marked in the frontal lobes. There was no excess of fluid in the ventricles, but a fine granular condition of the ependyma of the lateral ventricles and lateral recesses of the fourth ventricle was present. The cerebral vessels were engorged; the basal vessels were healthy. The cord looked healthy to the naked eye. The pons, medulla, and cerebellum showed no pathological change. Except that both lower lobes of the lungs were congested the rest of the organs were healthy. Microscopical sections of the cortex of the ascending parietal and ascending frontal convolutions and from the frontal lobes on both sides, and sections of the cord—cervical, dorsal, and lumbar—hardened in Müller's fluid and stained by van Gieson's method, failed to show any marked pathological change.

With regard to diagnosis and prognosis little need be said. The diagnosis is readily made in the vast number of cases from (1) the hereditary nature of the malady, occurring in successive generations; (2) the character of the involuntary movements; (3) the chronicity of the complaint; and (4) the mental deterioration associated with it. It may, however, be confounded with Friedreich's ataxy, symptomatic hemi-chorea, possibly with some cases of locomotor ataxy, and in the early stages, when the face is alone affected, with convulsive tic. The prognosis is always grave, recovery is unknown, and though the pitiable sufferer may live to an advanced age he is rendered incapable of supporting himself by reason of the restless movements and progressive mental enfeeblement. No treatment is of any avail in arresting the disease, though potassium bromide, chloral, and antipyrin are occasionally useful in quieting the patient and obtaining sleep. Hydrotherapy appears to be useless.

The interest lies in the pathology of the disease. Dr. Huet in his masterly monograph "De la Chorée Chronique" remarks that so many different lesions have been found post mortem that it is impossible to judge of their respective value; he puts on one side the "embolic theory" as quite unproven, and suggests that the lesion lies in some change in the cortical nerve cells which are inherently prone to undergo degeneration at a prematurely early age; comparing the disease with epilepsy it seems likely that such may prove

to be the case. In the present instance, however, the necropsy revealed nothing more than might well have been found in a case of senile dementia, though the wasting of the frontal lobes was striking. Until more is known of the pathology of ordinary chorea of youth it is unlikely that any definite cause for this peculiar condition will be discovered.

Chichester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF CEREBRO-SPINAL MENINGITIS; DEATH ON THE FOURTH DAY.

BY NAPIER CLOSE, L.R.C.P. EDIN., &c.

THE patient was an unmarried woman, aged 36 years, who had been quite well until August 18th, 1905. On August 17th she went on a short excursion to the seaside and was then in excellent health and spirits. The same evening she partook, in common with several others, of some tinned salmon, of which she ate heartily. On the 18th she complained of severe headache and suffered from abdominal pain, vomiting, and diarrhœa, which continued throughout the night. She had no rigor or vertigo. On the 19th she was first seen at 7 A.M. by my assistant who elicited the above history and also the fact that she had become worse at about 4 A.M. and had since taken no notice of her surroundings. Her condition then was as follows:—She was lying on her side in a semi comatose condition, being only roused with difficulty; her face was flushed and her tongue was furred; her pulse was 90 per minute and somewhat bounding in character; her temperature was normal. The abdomen moved naturally and did not appear to be tender; the cardiac and pulmonary sounds were normal; the pupils were equal and normal; there was no squint; there were no muscular twitchings; the patient was menstruating. She was ordered half a grain of calomel every three hours; four of these powders were sent and all were taken. When she was seen later in the day by myself she appeared a little better, the vomiting and diarrhœa having stopped. She took some notice but was too deaf to understand any questions. She was given a mixture containing bismuth, potassium bromide, compound tincture of cardamoms, bicarbonate of sodium, and aromatic spirit of ammonium. She apparently continued to improve until the evening of the 20th when she became actively delirious and was ordered a chloral draught and the above mixture was repeated. She, however, did not sleep and became even more excited. When I visited her on the morning of the 21st it was observed for the first time that her head was retracted. Her back was slightly concave, her legs were drawn up, and she had twitching of the facial muscles. Herpes had appeared round her mouth. Her pulse was 100 per minute, full, and bounding and her temperature was 100·5° F. She was still wildly delirious and required two or three people to keep her in bed. Ice was applied to the head and spine and she was given a paraldehyde draught which produced no effect. Two hours later, therefore, she was given half a grain of morphine in a suppository, after which she slept for six hours. At this time she was in the following condition:—Her head was much retracted, opisthotonos was well marked, the pupils were contracted and equal, the legs were drawn up, and Kernig's sign was present, together with marked contraction of the hamstring muscles. Her knee-jerks were unaltered, she had no ankle clonus, and Babinski's sign was absent. Numerous petechial spots, dark in colour and one or two lines in diameter, were present over the upper part of her back. Her temperature at 11 P.M. was 102°; her pulse was 100 per minute and full. She exhibited Cheyne-Stokes respiration and was still acutely delirious. She was given another suppository containing half a grain of morphine, after which she again slept for some hours. From this time, however, she gradually sank into a comatose condition and died at midday on the 22nd, the retraction of the head and spine becoming very marked towards the end. Owing to the extreme delirium of the patient lumbar puncture unfortunately could not be performed.

The history and symptoms of this case are very instructive and afford an almost typical picture of what in Osler's classification is termed the "ordinary" form of cerebro-spinal fever as opposed to the "fulminant" and "anomalous" varieties. The severe vomiting and purging at the outset following the hearty meal of tinned salmon might possibly have led one at first sight to diagnose ptomaine poisoning, but after-events proved the true nature of the case. Almost all the characteristic symptoms were present—namely, headache, vomiting, deafness, pain in the back of the neck and down the spine, retraction of the head, opisthotonos, contraction of the hamstring muscles, Kernig's sign, muscular twitchings, petechial rash, herpes, active delirium and, towards the last, coma, and Cheyne-Stokes respiration.

I have notes of a similar case in a girl, aged 13 years, whom I saw 14 years ago, which terminated fatally in an equally short time.

Chard, Somerset.

A CASE OF PUERPERAL FEVER SUCCESSFULLY TREATED WITH ANTISTREPTOCOCCIC SERUM.

BY WILLIAM BLACKWOOD, M.B., B.CH. EDIN.

THE patient, a septempara, aged 37 years, was delivered of a male child on the evening of August 26th after a labour of about an hour's duration. The child was born and the placenta was expelled before the arrival of the midwife. I saw the patient for the first time on the following morning; she was then doing well and I examined the placenta and found it and the membranes complete. As the bed and surroundings were very dirty I instructed the midwife to attend to them, at the same time giving her perchloride of mercury tabloids to use in washing the patient's genitals. I visited the patient two days later and she then appeared to be doing well, the temperature and pulse being practically normal. The bowels had been moved that day after a dose of castor oil. The following evening I was sent for and I found that the patient had had a rigor; the temperature was 103·6° F. and the pulse was 158. She complained of pain over the uterus. There had been no vomiting and the lochia were not suppressed and appeared to be healthy. On examination per vaginam a large soft uterus was felt. I instructed the Illogan district nurse to visit the patient and to give vaginal douches twice daily and also thoroughly to wash the patient and change the bed linen, as it was still very dirty—in fact, I blame the dirty bedding and surroundings for being the means of infection.

The patient was given 30-minim doses of liquor ferri perchloridi every three hours and also a good dose of magnesium sulphate. During the night she had two more rigors. On the next morning, as the temperature and pulse were still elevated, I met Dr. J. H. Tonking in consultation, gave ether, and explored the uterus, curetting with the finger, but we only found a few shreds of placenta at the placental site, not large enough to have been recognised as absent when inspecting the placenta. Lochia were present. The uterus was douched out with bichloride of mercury, followed by hot sterilised water, and we decided to give Burroughs and Wellcome's polyvalent anti-streptococcic serum. The patient complained of pain in the left thigh and on examination marked thickening and redness were noted over the femoral vein extending down into the veins of the calf. The leg was wrapped in wool and bandaged. On Sept. 2nd the temperature rose to 104°, with a pulse of 160. An injection of ten cubic centimetres of serum was made into the abdomen. The temperature remained about 103° for the next three days and the patient was given an injection each day on two occasions of 10 cubic centimetres and one of 20 cubic centimetres of serum. On the 6th the temperature dropped to 101°, with a pulse of 120, and 20 cubic centimetres were given. On the 7th the temperature was 100°, with a pulse of 120, and 10 cubic centimetres were injected. On the 8th the temperature was 99·6° and the pulse was 112, and again 10 cubic centimetres were given. During the day there was a considerable discharge from the uterus of yellow pus of a non-fœtid nature which continued for the next five days and then ceased. There had been no increase of abdominal tenderness previously to this discharge, which I believe was due to

the uterine exploration setting up a slight endometritis, the discharge from which for some reasons had been partially retained, and there never was any suspicion of abscess formation. Up to the time of this discharge the lochia had diminished in quantity though they had not ceased entirely. About this time also the veins of the right leg became infected. From the 8th to the 20th the temperature remained between 99° and 100° and the pulse from 100 to 112. On the 12th I gave ether and opened a large abscess in the left thigh. On the 15th I opened another in the right calf and on the 17th one in the left calf. For the next four days the temperature fluctuated slightly, about 100°, but on the 24th it went up to 103°, with a pulse of 120. I again gave ether and thoroughly opened up the abscesses and inserted drainage tubes. On the next day the temperature had fallen to normal, where it has since remained. The wounds in the legs are fast healing, the tubes having been removed. The patient is free from pain, has a good appetite, and sleeps well, being carried downstairs daily to lie on a couch. I continued the liquor ferri perchloridi throughout the illness every three hours, with the addition for the first ten days of five-minim doses of liquor strychninæ hydrochloridi every four hours. The patient had no trouble with her bowels, as they were moved every day, salts only being required on two occasions. There was no tendency to diarrhœa. There is now no morbid uterine discharge. The patient menstruated last week.

Camborne.

A CASE OF EMPHYSEMA OCCURRING DURING PARTURITION.

BY FRANCIS H. SPRAGUE, M.R.C.S. ENG., L.R.C.P. LOND.

CASES of emphysema occurring during labour are apparently not common and the text-books I have at hand make only a passing reference to the possibility of its being a complication of labour; the effusion of air into the connective-tissue spaces is the result of rupture of some of the air vesicles of the lungs due to the excessive straining caused by the violent labour pains. The following notes of a case recently under my care may be worth publishing.

The patient was a perfectly healthy primipara, aged 24 years. The presentation of the child was normal—namely, in the left occipito-anterior position. Labour was somewhat prolonged owing to the fact that the total quantity of liquor amnii was very small and there was no dilating bag of waters in front of the child's head. With the descent of the head into the vagina the pains became very violent and throughout the second stage chloroform was administered in a quantity which, although sufficient to render the patient unconscious of what she was enduring, did not prove sufficient to prevent the rupture of the pulmonary tissue and subsequent emphysema. As soon as the head began to distend the perineum the patient was fairly under the influence of the anæsthetic and I gave my attention to the delivery of the child. It was now for the first time noticed that the right side of the mother's face and neck was swollen. When the labour was completed the swelling of the face, together with congestion of the conjunctivæ, was sufficient to make one anxious. On examination the swollen area extended over the whole front of the chest on the right side down to the fourth rib; the supraclavicular fossa was distended and also the anterior and posterior triangles of the neck; the right side of the face was puffy and the conjunctiva was injected. On palpation the characteristic crackling sensation caused by air in the connective tissue could be felt over the whole area. The voice was practically lost, the patient being only able to speak in a husky whisper. Difficulty of breathing and difficulty of swallowing were both marked, the patient repeatedly complaining that she felt as if choking. For the first 24 hours these symptoms caused the greatest discomfort. There was no vomiting after the anæsthetic, although severe headache and rise of temperature occurred during the first two days. Then all the symptoms subsided, the voice returned, and the dysphagia and choking sensation disappeared. The emphysema began to clear up. By the eighth day all the air had become absorbed and examination of the chest wall and lungs then revealed no abnormal signs.

Beyond the initial discomfort and the anxiety the patient felt concerning the condition it did not interfere with the progress of the puerperium. No treatment was adopted beyond protecting the chest and neck with cotton wool, the patient being kept absolutely quiet and told to restrain any cough or other respiratory effort. An aperient of calomel was given on the second day, its action being assisted by a soap-and-water enema.

Gloucester.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ANDOVER COTTAGE HOSPITAL.

A CASE OF PERFORATED GASTRIC ULCER WITH SOME ANOMALOUS FEATURES SUCCESSFULLY TREATED BY EARLY OPERATION.

(Under the care of Mr. E. A. FARR.)

ON May 20th, 1905, Mr. Farr's assistant (Mr. K. F. Gordon) was called to a case which afforded all the symptoms of mild catarrhal appendicitis, and though the patient (a frail-looking anæmic girl, aged 20 years) said that she had been treated previously for anæmia and ulceration of the stomach he was unable to attribute her then symptoms to that organ. Pain and tenderness were confined to the right iliac region and were especially referred to McBurney's spot. The attack yielded to the usual palliative treatment for appendicitis and the patient was subsequently treated for chlorosis and three weeks after the attack resumed her occupation.

On the evening of July 16th, about 6.30, Mr. Gordon was called to see the same patient who, whilst returning from an afternoon walk, had been suddenly seized with severe abdominal pain. As Mr. Farr was close at hand Mr. Gordon called him in and they found the patient pallid and collapsed; the abdomen was rigid and tender and there was undoubted dulness over the right iliac fossa. While at first the patient asserted that the pain was mainly in that region she afterwards referred it to the umbilical and epigastric regions. She vomited twice after the onset of the pain. Hot fomentations were applied at once and one-sixth of a grain of morphine was given to relieve the pain, and arrangements were immediately made for the removal of the patient to the Andover Cottage Hospital for the operation which was deemed imperative. On being moved the patient again vomited some blood-stained matter and this inclined Mr. Farr and Mr. Gordon to diagnose the lesion as a gastric one, though in view of the recent attack of appendicitis and the present symptoms they could scarcely overlook the possibility of a perforated appendix.

At 10 P.M. Dr. Gordon administered the anæsthetic (gas, ether, and A.C.E. mixture being employed) and Mr. Farr was able to make a further examination of the patient's abdomen. Even under anæsthesia rigidity of the epigastrium persisted while it disappeared elsewhere; there was still dulness over the right iliac fossa while resonance verging on tympanites prevailed over the rest of the abdomen and to some extent replaced the liver dulness. Mr. Farr decided to explore the iliac fossa first as he thought that if the appendix were at fault it would be comparatively easy to repair the disaster. On making the usual incision for appendectomy a quantity of discoloured serous fluid (sufficient to account for the dulness) escaped from the wound. This fluid contained some recent ingesta. The appendix was found to be intact but partially adherent to the wall of the fossa, evidently the consequence of a little plastic peritonitis occurring at the time of the attack of appendicitis recorded above. These adhesions broke down readily and the appendix was amputated, as this could be done rapidly and the patient's condition was giving no anxiety. Portions of the intestines that presented at the wound were swabbed with saline solution and a drainage-tube was inserted before closing the incision. By this preliminary operation the diagnosis was established, the patient was secured against further attacks of appendicitis, and a drainage outlet was provided which

proved most valuable in the later progress of the case. Mr. Farr then proceeded to make a median incision between the ensiform cartilage and the umbilicus, but could find no evidence of perforation on the anterior wall of the stomach, so he tore through the great omentum and immediately discovered an area on the posterior wall of the fundus coated with recent lymph. Further examination of this area revealed a perforation (about half an inch in length) close to the greater curvature about midway between the cardia and pylorus. Mr. Farr managed to draw the perforation up to the incision and closed it with Lembert sutures of sterilised silk and a purse-string suture of the same material. Through this second incision the adjacent bowels were irrigated freely with saline solution and a drainage-tube was passed down to the seat of perforation before finally suturing the wound. After completing the operation Mr. Farr injected a pint of saline solution subcutaneously and no symptoms of shock supervened. The patient vomited twice during the night and was fed with nutrient injections for 48 hours subsequently. Though there were some tenderness and distension of the abdomen on the day following the operation these passed off when the bowels were opened with calomel on the second day, and thereafter the patient made an uninterrupted recovery. The drainage-tubes were removed on the tenth day after the operation.

Remarks by Mr. FARR.—This case seems to me to be worthy of record as posterior perforations are very infrequent; also the immediate escape of the gastric contents from the lesser into the greater sac of the peritoneum appears to be unusual; and, finally, I know of only two recorded instances of the combined operations of appendectomy and closure of a perforated gastric ulcer—a dual proceeding which I think well justified in the above case.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Inflammation and Peritonitis regarded as Physiological Processes.

A MEETING of this society was held on Oct. 24th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

Mr. JOHN D. MALCOLM read a paper on Inflammation and Peritonitis regarded as Physiological Processes. He said that the view that inflammation was always caused by micro-organisms was opposed to the teaching of Lister and of physiologists generally. Attention was drawn to the following—namely, that the dilated vessels in an inflamed area afforded facilities for access of nutriment to, and for egress of waste material from, the affected part, that the tissues in this part were damaged, and therefore that metabolism, and especially destructive metabolism, must be unusually active in them, that there was a great congregation of leucocytes in the interstices of the partially devitalised tissues, that one of the chief functions of these cells was to remove waste products by a phagocytic action, that an exudation of plasma—a richly nutritive fluid—took place, and lastly, that physiological exchanges must continue between the damaged tissues and the circulating tissues, even in the most severe inflammatory conditions, for otherwise a local death *en masse* of the area deprived of nutrition must be brought about. It was suggested that the phenomena of stasis might be due to an active physiological process rather than to a diminished vitality of the blood cells caused by their contact with damaged tissues and that it was at least highly probable that the object of the whole series of phenomena following an injury was an introduction of leucocytes and blood plasma into the damaged area in quantity sufficient to remove, by a phagocytic and solvent action, the products of excessive decay of tissue induced by the injury. Evidence was adduced in favour of the view that a simple inflammation was a physiological process which merged into normal healthy action but that, when extensive and severe, it was associated with an increase of tissue changes throughout the body and that this excess of tissue changes constituted fever whether the temperature was raised or not. It was pointed out that Sir Frederick Treves, in the Lettsomian lectures for 1894, attributed inflammation of the peritoneum to septic influences, the possibility of the occurrence of an aseptic peritonitis being considered doubtful. This difference of opinion to which Sir Frederick Treves directed attention was attributed to the fact that he regarded a conflict between the cells of the body and invading bacteria as "a representation of the inflammatory process," whereas Mr. Malcolm considered that the surgery of the peritoneum might be better understood if it was recognised that every injury necessarily caused an inflammation, as physiologists taught. Certain phenomena not discussed in the lectures referred to were brought forward as important—namely, those which develop when the pedicle of an ovarian tumour had become acutely twisted and when an extra-uterine gestation had ruptured. It was pointed out that in these conditions there were abundant evidences of a well-marked peritonitis and that in the midst of the inflamed area there was a strangulated tumour, a dead fœtus, or a mass of blood, all of which offered favourable conditions for the development of septic micro-organisms but that in many cases there was no evidence of putrefaction. It was argued, therefore, that the changes induced under the conditions described were not septic in origin. It was held, however, that the changes arising around a completely strangulated ovarian tumour could not be described as other than inflammatory. They produced adhesions between the peritoneum on the new growth and that on all the adjacent tissues, and they were considered to be comparable to the changes taking place in a simple incision and terminating in union of its opposed surfaces by first intention. In both cases the phenomena were regarded as inflammatory and in both they were attributed to a physiological reaction brought about by the irritation due, in the one case, to the presence of the strangulated tumour, and in the other to the action of the knife. It was pointed out that the formation of adhesions around a strangulated tumour in the abdominal cavity must be preceded by an exudation of leucocytes and it was argued that a similar exudation of leucocytes must also precede union of an aseptic incision. In septic inflammation the tissues were capable of absorbing and destroying a variable quantity of some bacterial poisons. Hence there was no hard and fast line between aseptic and septic inflammations. Only the simplest form of septic peritonitis—namely, that due to the direct introduction of noxious germs into the peritoneal cavity—was considered. Acute septic peritonitis caused by the introduction of micro-organisms through a wound was regarded as being related to the adhesive peritonitis around a strangulated tumour in the same way as the inflammation in a suppurating wound was related to that in one healing by first intention. In both, all gradations between complete immediate union and no union at all might be observed. Mr. Malcolm then dealt with the effects of inflammation on the body generally. The cause of increased temperature was next discussed. The assertion that substances circulating in the blood caused a rise of temperature by acting on a heat centre was considered unsatisfactory, inasmuch as the mode in which they act was unexplained and the irritating effects on the tissues generally were ignored. Evidence was adduced that a rise of temperature consequent on an injury was accompanied by an exudation into the tissues rather than by an absorption from them. It was held that the more rapidly absorption took place the less obvious was the febrile reaction. The stability of the temperature in health and the immediate increase of heat production which followed a lowering of the superficial temperature were remarked, and it was suggested that damaged, partly devitalised tissues send messages to the heat centre, indicating that they were physiologically cold so long as they were not revived, absorbed, extruded, or marked off. But revival, absorption, extrusion, and demarcation could occur in a moment. The processes by which they took place seemed to occupy about three days and during that time the temperature rose. Hence it was suggested that a physiological coldness of the irritated tissues induced reflexly an increased heat production resulting in excessive thermo-genesis and in a rise of temperature if the stimulus was so strong that the heat-regulating centre was unable to counteract the effects of the abnormal heat-producing

stimulation. Thus, febrile symptoms also were attributed to physiological processes and it was suggested that they merged into healthy action on the one hand and on the other into such exaggerated action that death ensued. In conclusion, inflammation was described as consisting of the local physiological changes in and around injured tissues which were brought about by an injury and which increased in activity for not more than three days after the injurious action ceased—the object of this increased physiological activity being the removal by absorption, without obvious loss of tissue or the demarcation, with a view to separation, of those parts which have been so damaged that their period of usefulness to the animal economy had ended; the result, however, in some cases was a revival of tissues which had been deprived of their blood-supply. Septic inflammation was described as consisting of the local physiological changes in and around damaged parts, which were brought about by an injury and by the presence of irritating micro-organisms acting on the damaged and adjacent tissues, or which were brought about by the action of such micro-organisms on undamaged tissues—these changes continuing and varying in activity in proportion to the duration and intensity of the irritation—their objects, which were not always attained, being the removal by absorption or by extrusion of the noxious micro-organisms, and the removal by absorption without obvious loss of tissue, or the demarcation, with a view to separation and extrusion, of those parts which had been so altered that neither their absorption nor their recovery was possible. Shortly, inflammation, whether aseptic or septic, might be defined as consisting of the series of phenomena necessary for the removal, or for attempting the removal, of effete and irritating matter from a damaged area by the physiological processes of absorption, of extrusion, of demarcation, and of revival, or by one or more of these.

Mr. ALBAN DORAN said that in support of the view put forward by Mr. Malcolm he would quote two conditions in which rise of temperature occurred without any septic infection. The first was in the case of a twisted pedicle of an ovarian tumour and the second was in the case of a ruptured tubal gestation.

Mr. L. S. DUDGEON said there were two main questions to be considered in Mr. Malcolm's paper: first, Could inflammation be regarded as a physiological process? and secondly, Was there such a condition as aseptic inflammation? If an incision was made with aseptic precautions through the skin an increase in the leucocytes of the blood occurred within a very short period; so also if certain sterilised fluids were injected into the blood an increase of the leucocytes of the blood resulted. These could hardly be regarded as physiological processes. With regard to the second point it had been shown by Professor Walsh that many so called aseptic wounds contained the white staphylococcus. Again, it had been shown by Dr. H. E. Durham that in cases of peritonitis the peritoneal exudate might be sterile, whilst cultures taken from the great omentum showed the white staphylococcus. Mr. Dudgeon had recently confirmed this observation, finding the peritoneum sterile, whilst the great omentum produced the staphylococcus albus. It had long been taught that the rise in temperature after rupture of an extra-uterine gestation was due to the absorption of fibrin ferment. He had shown that the white staphylococcus was constantly present and its presence had also been demonstrated in cases of torsion of ovarian pedicle. The white staphylococcus did not produce suppuration when injected into guinea-pigs but only a clean exudation.

Sir LAUDER BRUNTON said that he was of opinion that the production of "ferments" played an important part in the variations of temperature. He said that the action of ferments had often been regarded as vital processes and instanced the older view with regard to digestion and the action of yeast in the formation of alcohol. When the white corpuscle was injured a ferment was excreted which caused the coagulation of the blood and the white cells also produced a substance which could digest fibrin. He thought that the production of "ferments" was a likely cause of the rise of temperature.

Dr. G. E. HERMAN said that in all cases of abdominal section which were running a normal course and in which for some reason it was necessary to re-open the abdomen within a period of three weeks adhesions were always found on the peritoneum and he believed that local peritonitis was always a sequel of abdominal section.

Mr. MALCOLM replied.

MEDICAL SOCIETY OF LONDON.

Gastro-enterostomy for Chronic Gastric or Duodenal Ulcer. —Symptoms and Treatment of Perforated Duodenal Ulcer.

A MEETING of this society was held on Oct. 23rd, Sir LAUDER BRUNTON, the President, being in the chair.

Mr. C. W. MANSELL MOULLIN read a paper on 60 Consecutive Cases of Gastro-enterostomy performed for Gastric and Duodenal Ulcer. In four of these cases no ulcer was found, though they had recovered and one had derived benefit from the operation. Four of the remaining 56 cases had died, three from causes, such as badly prepared catgut, which were preventable. In the fourth case no cause for death was found by the pathologist. 42 out of the remaining 52 were cured, not merely relieved. Many of the patients had been under observation for three or four years. Their power of digestion was as good as it had ever been. All of them had been kept under observation and it had been proved that relapse, when it did occur, was almost always due to some indiscretion in diet or to overwork or to the two combined. The symptoms disappeared spontaneously under the influence of 24 hours' rest in bed combined with abstinence from food and purgation. Of the remaining ten cases seven were simply incurable. The disease had been allowed to continue so long that it was not possible to restore the damaged structures to even an approximately natural condition. Two had had subsequent attacks of hæmorrhage and one still continued to suffer from attacks of acid dyspepsia as severely as he did before the operation. Mr. Mansell Moullin pointed out that these cases might be divided into two classes—those in which there was some mechanical difficulty, such as pyloric stenosis, which could only be treated mechanically, and those in which there was an ulcer still unhealed. The latter should be given one thorough trial of prolonged rest, carried out as efficiently as circumstances would allow. If this did not succeed or if there was merely a period of relief followed by a relapse it was no use repeating the same line of treatment again and again, each time under conditions worse than they were before. Repetition meant not only leaving the patient exposed to the risk of perforation and hæmorrhage; it meant slowly and surely destroying all the chance there was of permanent cure and at the same time steadily increasing the liability to cancer. Gastro-enterostomy, on the other hand, if done in time held out an excellent prospect of permanent cure with a mortality not so high as that in which the operation was undertaken for perforation and hæmorrhage in cases that were left to themselves.

Mr. S. MAYNARD SMITH read a paper on Perforated Ulcer of the Duodenum based on a series of 13 cases admitted to St. Mary's Hospital since 1900. Of these 13 cases ten were operated upon, with four recoveries and six deaths. There were two classes of acute perforation—one with profuse escape of the intestinal contents rapidly flooding the whole peritoneal cavity; and a second with limited escape which for a time localised itself in the right kidney pouch which had certain definite boundaries. For a time this second class remained localised but after an interval further escape took place with overflow into the pelvis. Evidence in favour of the existence of this second class was threefold. 1. Experimental evidence which consisted of reproducing the condition in the dead by running fluid from an artificially made duodenal perforation. It was found that a large quantity of fluid invariably accumulated in the right renal pouch before the pelvis was invaded. After this the fluid overflowed the brim of the pelvis to the right of the cæcum, or if there was no mesocolon then the fluid might cross the ascending colon and be guided to the right side of the pelvis by the obliquity of the mesenteric attachment and reach the pelvis by crossing the termination of the ileum. 2. The results of operations showed that a collection of fluid was sometimes found in the right renal pouch before the pelvis became affected at all. 3. Abscess formations always had the same boundaries as those which had been described for the same pouch. In treating of symptoms the pulse and the appearance of the patient gave the most trustworthy evidence of an acute perforative lesion and the situation of the onset of pain in the right hypochondrium was most useful in leading to diagnosis of the duodenum being the site of the perforation. The differential diagnosis between appendicitis and perforative duodenal ulcer was dealt with and the fact was pointed out that in six reported cases the two conditions had

been co-existent. In dealing with the treatment the value of irrigation was urged, but it was pointed out that in reporting cases bearing on the value of irrigation it was necessary to report also the length of time between perforation and operation, since this was by far the most important guide in prognosis. Drainage of the pelvis by suprapubic incision and of the right renal pouch in all cases by a right lumbar incision was taken to be the best method of treatment. It was thought better not to excise the ulcer but to trust to a future gastro-enterostomy if symptoms continued. The nature of the fluid extravasated was of no value in distinguishing between gastric and duodenal perforation. The fluid had been acid in all cases of the duodenal series in which its reaction had been tested.—Mr. CUTHBERT S. WALLACE remarked that the two directions which the extravasated fluid from duodenal perforations could take might be described as the pelvic and lateral "watershed" respectively and the course pursued depended on what the patient was doing and his position at the time of perforation. Mr. Wallace also discussed the position of the incision and the question of irrigation. The latter was not advocated as pathologists had shown that it killed the phagocytes. Absence of liver dulness he regarded as a valuable sign of duodenal perforation.—The PRESIDENT asked what was the relative value of Murphy's button and suture in gastro-enterostomy. The diagnosis of duodenal perforation from gall-stones was sometimes difficult and he mentioned the case of a woman, aged 26 years, who was subject for years to recurrent pain in the region of the stomach about two hours after a meal; the symptoms of perforation supervened and at the operation 152 small gall-stones were found in the gall-bladder.—Mr. MANSELL MOULLIN and Mr. MAYNARD SMITH replied.

OPHTHALMOLOGICAL SOCIETY.

Colour Systems.—Notes on a Peculiar Pupil Phenomenon in Two Cases of Partial Iridoplegia.—Tscherning's New Form of Spectacle Lens.—Exhibition of Cases.

THE first ordinary meeting of the new session of this society was held on Oct. 19th, Mr. J. PRIESTLEY SMITH, the President, being in the chair. After a brief address the following papers were read.

Dr. F. W. EDRIDGE-GREEN read a paper on Colour Systems. He said that all the colour systems of the past were elemental and showed how his non-elemental colour system was developed. He assumed that light falling upon the eye liberated the visual purple from the rods and a photograph was formed. The decomposition of the visual purple by light chemically stimulated the ends of the cones and a visual impulse was set up which was conveyed through the optic nerve fibres to the brain. The visual centre was therefore acted upon by impulses caused by all rays of light and transmitted to the mind impressions of white light, and by it objects were seen monochromatically, as in a photograph. The colour-perceiving centre was concerned with the quality of the impulse within the power of perceiving differences possessed by that centre or portions of that centre. A colour system was developed on this basis in the following way. It must be supposed that the visual centre was first developed and then a colour-perceiving centre. When there were few cells in that centre it would only be able to differentiate between the largest and the smallest wavelengths, the red and the violet—that is, the spectrum appeared nearly all grey but with a tinge of red at one end and a tinge of violet at the other. As the colour sense developed and more and more cells were added to the colour-perceiving centre it was not necessary that the rays of light should be so far apart before a difference was seen, and so the neutral band gradually diminished in size until the two colours met in the centre of the spectrum. Then a third colour, green, was developed, there being three main points of difference seen instead of two. Then a fourth colour, yellow, was developed, its position being at the next point of difference—that is, midway between the red and the green. The next colour to be developed was blue and then orange. In some individuals evolution had proceeded farther and a seventh colour was seen in the spectrum. Dr. Edridge-Green then showed how inconsistent the elemental theories were with definite facts of colour blindness which were a necessary consequence of the above theory.

Dr. C. MARKUS read notes on a Peculiar Pupil Phenomenon in cases of Partial Iridoplegia in a boy, aged 12 years, and in a woman, aged 32 years. Loss of the direct and consensual light reflex, together with mydriasis, was observed in one eye only; the fellow pupils were normal. With convergence (accommodation) the affected pupil became quite small in the case of the woman, even in good light actually smaller than the healthy pupil. Subsequent dilatation proceeded very slowly; it took between four and five minutes for the pupil to return to its original size. Only a slight contraction occurred on forcible closure of the lids, but a touch of the cornea (e.g., instillation of eye-drops) caused a maximal constriction, as evidence of a trigeminal pupillo-constriction reflex. Accommodation alone, as shown by reading distant letters with concave glasses, caused the pupil to contract, whereas prisms base outwards had no effect on the pupil. Vision and accommodation were good, the fundi were normal, and there was nothing to account for the pupil change in the case of the woman; the boy exhibited absence of the knee-jerks but no other signs of past or present disease. A similar observation was made in a third case, that of a medical man, aged 40 years, who appeared to be in perfect health and who had found his one pupil wide and inactive to light for the last three years or more. A further instance of exaggerated associated movement on the part of a paralysed iris was seen in the case of a patient who suffered from ophthalmoplegia interna (syphilis) of the left eye for many years. The affected pupil, otherwise inactive, became smaller even if the patient closed his eyes quite gently. Firm closure of the lids caused a very considerable contraction of the pupil with subsequent slow dilatation. A break in the efferent segment of the light-reflex arc would account for the mydriasis and inactivity to light in the first three cases. The peculiarly slow dilatation was due to a prolonged after-effect of a stimulus (accommodation) and was to be put on a par with the over-effects of certain stimuli on a weakened or paralysed sphincter. In order to render this behaviour more explicable reference should be made to the so-called paradoxical pupillo-constriction and dilatation after denervation of the sphincter or dilator iridis, to Westphal's paradoxical muscular contraction, and to the exaggerated associated movement of the levator palpebræ and orbicularis oculi in some cases of ptosis and facial paralysis respectively. The pathological significance of the pupil change in the first three cases appeared to be an open question. It might be suggested that it was an instance of "abiotrophy" (Gowers).

Mr. G. LINDSAY JOHNSON showed some Lenses for Spectacles which formed part of a complete series of glasses invented by Dr. Tscherning, director of the Ophthalmological Laboratory of the Sorbonne, Paris. The peculiarity consisted not in their being meniscus in form but in one surface of each lens forming part of a sphere which had a common centre with the cornea, while the other surface was curved to suit the various dioptres of the converging and diverging series, identical in power with those in the oculist's trial cases. Owing to the peculiar form of these glasses all rays passing from the anterior principal point through the entrance pupil passed through the lens in a direction nearly normal to a tangent to the surface. This reduced the distortion and astigmatism to an almost imperceptible quantity, except in the case of very oblique rays. Mr. Johnson also showed two photographs of squares ruled on a large plane surface; the one taken with an ordinary lens having a diaphragm corresponding proportionately in size and position to the entrance pupil of the eye, the other taken with Dr. Tscherning's lens. The improvement in the image, the flatness of the field, and the absence of distortion and astigmatism were most marked. Mr. Johnson believed that such lenses would be found of great value to billiard players, riflemen, cabinet makers, and draughtsmen, in fact, in all cases in which high definition and rectilinearity were essential.

The following cases were shown:—

Mr. CHARLES WRAY: Two cases of Toxic Amblyopia cured in 14 days.

Mr. W. H. H. JESSOP: Rupture of the Retina near the Macula.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Some Aspects of Modern Surgery.—A Sign in Connexion with the Lower Eyelid observed in Certain Acute and Chronic Cases.—Foreign Bodies in the Uterus.—Fracture of Tibia and Fibula.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Oct. 20th, when

the PRESIDENT (Mr. E. WARD) delivered an address on Some Aspects of Modern Surgery.

Mr. H. J. ROBSON (Leeds) read a paper entitled "Some Preliminary Remarks on a Sign in connexion with the Lower Eyelid observed in Certain Acute and Chronic Cases." The sign he referred to was a slight eversion of the lower eyelid made evident upon protrusion of the tongue, the lid resuming its normal state when the tongue was retracted—i.e., the lower eyelid became displaced from the eyeball or protruded from the eyeball for the space of one, two, or three millimetres upon protrusion of the tongue. He referred, of course, to a healthy lid and not to one diseased either by the debility of extreme old age or by trachoma. He had met with this sign eight times during the last two and three-quarter years although his search for it had been by no means a careful one. He reported the cases, both acute and chronic, in which he had observed it. In some of them the sign was constant and persisted, in others it was only transitory. This lower eyelid sign was apparently never present in health, therefore he thought it must be a sign of disease; and since he could find no record of it in any published work or writing he regarded it as a new sign with some distinct significance and one worthy of further consideration. He asked, Was it a reflex act of disease? If so, the protrusion of the tongue might serve the same purpose as a blow on the ligamentum patellæ in the patellar reflex. He did not, however, think it was a reflex act. It was clearly produced by the contraction of the malar fibres of the orbicularis palpebrarum muscle—the malar muscle as described by Henle. From the fact that the facial nerve supplying the malar muscle and the hypoglossal nerve supplying the genio-hyoglossus muscle communicated in the tongue, and furthermore, from the fact that the nuclei of origin of the hypoglossal nerve and of the facial nerve were in close proximity in the medulla and the pons Varolii respectively, it was easy to understand how the coördinate muscular act of the simultaneous protrusion of the tongue with the eversion of the lower eyelid was produced—i.e., given some stimulus. In acute cases he thought it might be caused by the circulation in the blood of some toxin acting directly upon the common nuclei of origin of the hypoglossal nerve and of those fibres of the facial nerve supplying the orbicularis palpebrarum and its offshoot, the malar muscle. In chronic cases he thought it was probably caused by some peripheral irritation; or, on the other hand, where the sign persisted, he thought that a faulty muscular act might have been set up from some prolonged and now past irritation. Why it was not more frequently present in asthenic or acute cases he was puzzled to know, though he was inclined to think that if it were regularly looked for it would be often found present in acute cases as quite a transitory sign and as indicating a severely ill condition; for instance, in a case of acute laryngitis complicated with influenza in which the patient was extremely ill he found the lower eyelid sign present one night, but it had disappeared the next day when the urgent symptoms had been relieved, and it had not since been observed in that case. When detected he thought that it should always put them on their guard, whether, for instance, they were treating an acute case for some urgent symptoms or, on the other hand, examining a case for life insurance.

Dr. J. B. HELLIER read a paper on Foreign Bodies in the Uterus.

Mr. LAWFORD KNAGGS read a paper on a Form of Fracture of the Upper End of the Tibia and Fibula produced by Indirect Violence.

The following cases and pathological specimens were exhibited:—

Dr. L. A. ROWDEN showed two cases of Lupus Vulgaris healed by treatment with the x rays and high-frequency currents.

Mr. W. H. BROWN showed (1) an Intussusception apparently caused by a round worm; (2) an Enucleated Prostate; and (3) Syphilis of the Penis.

Dr. E. F. TREVELYAN showed (1) a case of Infantile Paralysis with its chief localisation in the flexors of the wrist; and (2) a case showing Stellwag's Symptom without any other very definite evidence of Graves's disease.

Dr. HELLIER showed (1) Chorio-epithelioma (with sections); (2) Myoma of the Ovary removed by vaginal ovariotomy; and (3) Epithelioma Vulvæ.

Mr. H. LITTLEWOOD exhibited (1) a section of a large Vesical Calculus; and (2) curiously shaped Calculi removed from the kidney.

Dr. A. L. WHITEHEAD showed (1) a case of Cerebellar Abscess; and (2) an Ophthalmic Case for Diagnosis.

Dr. A. G. BARRS showed (1) a case of Supraclavicular Adenopathy; and (2) Double Malignant Disease of the Suprarenal Capsules with Intrathoracic Growth.

Mr. LAWFORD KNAGGS showed the after-result of Tendon Lengthening for Inflammatory Muscular Contracture (? Volkmann's ischæmic contraction).

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on Oct. 20th, Dr. Lewis being in the chair.—Mr. P. Lockhart Mummery showed cases of Unilateral and Bilateral Persistence of the Fourth Branchial Cleft. The first patient was a girl, aged eight years. There was a minute opening on both sides of the neck just at the anterior border of the sterno-mastoid muscles. Closely associated with the sinus in its whole length there was a hard bar of cartilage which could be distinctly felt under the skin. On the left side there was a cyst of about the size of a hazel-nut. From the opening on the right side there was a discharge of clear mucus, while from the left opening there was a milky discharge. In this case a hereditary factor could be traced through two generations. In the second case there was a small opening in the skin on the right side of the neck at the anterior border of the right sterno-mastoid muscle. From this opening a thick cord could be traced upwards and ending above in a cyst.—Dr. T. R. C. Whipham showed a case of Lymphadenitis in a girl, aged two years. There were glands in the cervical, the axillary, and the inguinal regions which were stated to have suddenly enlarged two months ago, accompanied by rise of temperature, malaise, and anorexia. The glands were still further enlarged during the next month with increase in size of the liver and the spleen. The temperature kept irregular and in the sixth week rose to nearly 105° F.—Dr. Whipham also showed a case of Splenic Anæmia in a girl, aged eight years, who attended the Evelina Hospital for wasting rickets in infancy. She had been in hospital on and off during the past year with marked anæmia, occasional enlargement of the spleen, irregular high temperatures, and frequent vomiting.—Dr. J. Porter Parkinson showed cases of Splenomegaly in a boy, aged 11 years, and his sister, one year old. The boy had had a very enlarged spleen for ten years and at the present time the liver was slightly enlarged and there was slight jaundice; the red corpuscles of the blood were diminished but the colour index was normal and there was slight leucocytosis. The infant had anæmia with leucocytosis and a very enlarged spleen. There were also signs of rickets. The clinical features resembled splenic anæmia but the blood change was not characteristic of that disease, while jaundice which existed in one of the patients was not found in true splenic anæmia.—Dr. Edmund Cautley showed a case of Splenic Hyperplasia in a girl, aged eight years, with anæmia, a large prominent abdomen, a much enlarged spleen, and an enlarged liver. A hæmic murmur was heard over the heart.—Mr. W. Milner Burgess showed a case of Congenital Tumour of the Arm, probably Lipoma, in a girl, aged three years. The tumour was noticed three weeks after birth on the right arm, consisting of three small lobes of the size of peas which were moveable and painless.—Dr. G. A. Sutherland showed two Mongolian types: (1) a pure Japanese Female Infant, ten months old; and (2) a Mongolian Imbecile, aged two and a half years. He referred to the name of Mongolian imbecile which was used because of certain facial appearances in this form of imbecility which were suggestive of a Mongolian origin. While the Mongolian imbecile of English extraction was to be regarded as a pathological product the Eastern Mongolian was the physiological product of a pure-bred race. The Japanese baby, however, possessed certain features of anthropological interest in the shape of blue pigment spots scattered over the back and specially well marked in the sacro-gluteal region. These pigment spots were well seen in the baby shown, there being a large blue patch over the buttocks and some smaller spots over the back and shoulders and one on the dorsum of the left hand. Regarding this pigmentation it was stated that it might increase in extent for some months after birth but usually disappeared entirely during the first few years of life.—Dr. Sawyer read the notes and exhibited the specimens of a case of a Diffuse Angiomatous Condition of the Liver in a boy, aged seven years. A lantern

demonstration of the microscopical appearances of the liver and other organs was given. The liver showed a most marked degree of cirrhosis and throughout the organ an angiomatous condition was present.—Dr. George Carpenter showed two cases of Congenital Hypertrophic Stenosis of the Pylorus. The first case was seen at three weeks old, the pylorus then being of stony hardness. Symptoms commenced when a fortnight old. 11 days later Mr. Ewen C. Stabb performed Loreta's operation, the pylorus then admitting the little finger. The child died 15 days afterwards from starvation. The second child was five weeks old and symptoms commenced immediately. The child was operated upon by Mr. Lockhart Mummery on the following day by gastro-enterostomy. The child died a few hours after the operation.—Dr. Edmund Cautley reported three cases of Congenital Hypertrophy of the Pylorus which had been treated by pyloroplasty on the twenty-ninth, fifty-third, and sixty-first days of life. The first patient weighed about five and a half pounds before operation. He recovered but died subsequently on the fifty-fourth day from an attack of ileo-colitis. The other two were very wasted infants. One died five hours after operation from collapse. The other died suddenly on the fourth day when apparently doing well. Dr. Cautley also mentioned two private cases operated on when 28 and 35 days old, both of which had recovered perfectly. He showed the stomach and pylorus of a baby, aged 11 weeks, who died from marasmus due to constant vomiting since birth but with no evidence of pyloric hypertrophy or stenosis.—Dr. Carpenter showed a Dermoid Tumour of the Mediastinum which had been removed from a child, aged ten years. The tumour, which was cystic, was of the size of a large fist. The cysts contained a brown gelatinous material and in one of them were hairs and sebaceous material.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Liverpool on Oct. 20th, Dr. D. Lloyd Roberts, the President, being in the chair.—The President showed a specimen of Carcinoma of the Clitoris, the rarest growth affecting the external genitals, from a patient, aged 31 years, who had noticed the presence of the growth for about seven years. He called attention to the early age of occurrence and to the absence of itching as a symptom. In both of these respects the case was in marked contrast to one which he had brought before the society during the previous year.—Dr. G. Whittle (Liverpool) considered that itching in these cases was a separate accident, having no direct correlation with the cancerous nature of the disease.—Dr. H. Briggs (Liverpool) showed two Fibromyomata removed from women, aged 35 years and 40 years respectively, which were characterised by accompanying ascites. The presence of this symptom was explained in one case by extreme smallness of the pedicle, while in the other case the tumour was enveloped in omentum, with which it had contracted extensive adhesions. Dr. Briggs inclined to associate the presence of ascites with low vitality in abdominal tumours rather than with malignancy. He mentioned a patient with fibroids in whom the Salisbury treatment so lowered vitality that ascites occurred only to disappear when the patient returned to her ordinary mode of life.—Dr. A. W. W. Lea (Manchester) mentioned a patient, aged 44 years, with a remarkable amount of ascites, who was found when the abdomen was opened to have a firm uterine growth filling the pelvis and abdomen half-way up to the umbilicus. The presence of the ascites and the characters of the growth led to a diagnosis of sarcoma of the uterus. Both ovaries were removed and a perfect recovery followed. The ascites never returned and the tumour shrank so that the uterus again became freely moveable. As no recurrence took place within five years it was clear that the case was one of fibromyoma with ascites.—Dr. J. W. Martin (Sheffield) had recently seen a large multilocular ovarian tumour of innocent nature but low vitality which was accompanied by a quantity of ascitic fluid. This favoured the view that ascites pointed to the feeble nutrition rather than to the malignancy of an abdominal growth. The cause in this case appeared to be stretching of the pedicle, as the growth occupied one-half of the abdomen but was developed from the opposite side.—Dr. Briggs, in reply, compared the occurrence of ascites with abdominal tumours to the ascites of cirrhosis of the liver, pointing out that the one was cured by removing the tumour; the other could be treated by improving the circulation of the liver.—Dr. Briggs also showed the Left Rudimentary Horn of a Uterus, a Large Sarcoma of the Uterus, and drawings illustrating two cases of Accidental Hæmorrhage.—Dr. Gordon W. Fitzgerald (Manchester) read a paper on Lacerations of the Vagina in Parturition.—Dr. W. K. Walls (Manchester) and Dr. W. E. Fothergill (Manchester) mentioned cases in illustration of the subject.

CHELSEA CLINICAL SOCIETY.—At the opening meeting of the session of this society on Oct. 17th the President, Dr. J. Barry Ball, delivered an address on the Nasal Treatment of Bronchial Asthma. After giving an account of the pathology of the disease and of the various physiological and pathological relations of the nasal and bronchial mucous membranes to one another, Dr. Ball proceeded to review the treatment of bronchial asthma by the removal of polypi and other affections of the nasal mucous membrane with the knife or the cautery, and where no nasal disease existed by the application of the electric cautery to certain parts of the nasal mucous membrane. His own experience had not led him to take so hopeful a view of the treatment as some of the writers on the subject but at the same time he had found the treatment permanently successful in a certain proportion of cases and in a far larger proportion completely successful for a limited period, requiring repetition at the end of 12 months or more. The results appeared to be due to reflex nerve action. By far the greater proportion of cures was, according to all observers, in cases in which there was no disease whatever in the nasal mucous membrane. Upon the whole, he considered the treatment highly satisfactory, as the relief of asthma, even for a limited period, was a great boon to those suffering from this trying complaint, and the percentage of successful cases was sufficiently large to make it generally applicable.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 20th, Mr. W. Campbell M'Donnell, the President, being in the chair.—The President showed a girl, aged 12 years, with Papular Eczema on the backs of the hands and wrists and on the face, which had relapsed annually since vaccination ten years previously.—Dr. D. Ross showed a case of Extensive Injuries of the Head; also a case of Diffuse Psoriasis which had been greatly aggravated by the patient's profuse use of chrysophanic acid.—Dr. W. Langdon Brown read a paper on a Rational Basis for Organo-therapy, which he said was but the revival of a very ancient practice, but to-day its employment must be based on the study of these active substances produced by the glands to which Professor E. H. Starling had given the name of "hormones." The nervous system was not the only stimulant to action in the body, the hormones acting as a chemical stimulant. Thus adrenalin had been shown to be necessary to the activity of the sympathetic nervous system and secretin to that of the pancreas. They were bodies of small molecular weight, destroyed by oxidation, and not as a rule absorbed from the alimentary canal. This usually limited their action to local application or intravenous injection. Their therapeutical uses were then considered in turn with special reference to adrenalin, secretin, and iodothyrin.

GLASGOW EASTERN MEDICAL SOCIETY.—The opening meeting of this society was held on Oct. 18th, when Dr. Miller Semple, the President, gave a very interesting address entitled "Reminiscences of Three Years' Practice in the North of New South Wales." The lecture was illustrated with limelight views and a collection of curios relating to the aborigines and mounted specimens of the fauna and flora of the district. There was a large attendance of members and a cordial vote of thanks was awarded to the President for his address.—The office-bearers are: President: Dr. Miller Semple; Vice-President, Dr. T. C. Barras; Secretary, Dr. Hugh H. Borland; and Treasurer, Dr. Thomas Russell.

RUSSIA'S OLDEST MEDICAL SCHOOL.—The chief medical officer of the Moscow Military Hospital writes to the *Novoe Vremya*, saying that the said hospital is about to complete the second century of its existence. It was the first Government hospital in Russia, besides which it was the first, and for a long time remained the only, medical school in Russia. It was founded in the time of Peter the Great and was formally opened on Dec. 4th, 1707. Its history is at present being written. The object of the letter is to appeal to all who may have documents or information of use to the compilers of the history to communicate them for the purpose stated.

Reviews and Notices of Books.

The Pathology of the Eye. By J. HERBERT PARSONS, B.S., D.Sc. Lond., F.R.C.S. Eng., Assistant Ophthalmic Surgeon, University College Hospital, and Assistant Surgeon, Royal London (Moorfields) Ophthalmic Hospital. Vol. II., Histology. Part 2. With 279 woodcuts in the text. London: Hodder and Stoughton. 1905. 8vo, pp. 389–770=352. Price 15*s.* net.

WE cordially congratulate Mr. Parsons on having maintained in this, his second volume, the high standard which he reached in the first. We have read every section of his book with interest. It contains a very large quantity of original matter and at the same time presents to the reader the observations of others in a more convenient and compact form than any other book on the subject with which we are acquainted.

The first chapter of this volume of the treatise is occupied with the pathology of the lens and is devoted to the description of the various forms of cataract. It is incidentally mentioned that satisfactory sections of the lens are more difficult to obtain than any other part of the eye owing to the varying hardness of different parts and the difficulty of finding an appropriate hardening agent, so that even in normal lenses effusions of fluid between the lamellæ and granular deposits, which cannot be distinguished from those that are found in cataract, are produced. All the changes which occur in the lens are essentially degenerative, consisting in separation of the fibres near the equator, the spaces becoming filled with fluid which coagulates into drops or spheroidal bodies, known as the Morgagnian globules. The fibres change their form and become cloudy owing to fatty degeneration. The epithelium lining the capsule presents vacuolisation and other degenerative changes often attended with proliferation in the cells, which is particularly well seen in anterior capsular cataract. In senile cataract the cortical portion of the lens is first and chiefly affected. The fibres are separated by spaces filled with coagula which stain deeply with hæmatoxylin, and fat, cholesterin, and calcareous particles may be found. Some of the lens substance undergoes absorption, causing the remainder to separate from the capsule, the intervening space being filled with fluid. The cataract is then said to be ripe. Black cataracts are due to complete sclerosis of the lens fibres, the whole lens undergoing transformation. Lamellar cataracts, in which a zone of the lens substance occupying an intermediate position between the nucleus and the cortex becomes more or less opaque, may probably be attributed to the deposit of a pathological layer of fibres around a normal nucleus as in rickets, with which disease it is often associated. Polar cataracts may be either anterior or posterior and anterior polar cataracts may be either capsular or cortical, the former being the most frequent. Anterior capsular cataract is due to a localised proliferation of the anterior cubical cells, usually accompanied by some disturbance and breaking up of the lens fibres in the neighbourhood. The new cells may form a membrane resembling, or identical with, the original capsule on their anterior surface. This form of cataract may also result from the apposition of the lens to a perforated cornea. The subject of cataract is illustrated by no less than 34 woodcuts showing the conditions described in the text. The chapter on the vitreous humour, though short, is instructive. Mr. Parsons points out that its relations to pathology are purely passive, hence that such terms as shrinking of the vitreous and hyalitis are inappropriate. It is still doubtful whether there is a definite hyaloid membrane behind the lens. The chief abnormal products that have been found in the lens are the results of inflammation, tumours, blood, and parasites, as cysticercus, echinococcus, and filaria.

A long and important chapter is devoted to the choroid, the structure of which is shown to be more complex than is usually given in works on histology. The pathological changes occurring in inflammation, whether acute or chronic, general or circumscribed, are of course fully described, as are also those forms which are associated with syphilis and tubercle. Under the head of degenerations are included senile changes, atrophy, vascular degeneration, colloid bodies, and ossification. The colloid bodies which are of such common occurrence in old people are described by Mr. Parsons as having at first a finely granular structure which soon presents concentric lamination; they fuse together and become infiltrated with calcareous matter, ultimately undergoing ossification. He holds that in regard to their origin the excrescences are formed by deposit from the cells of the pigment epithelium in the same manner as in all probability the membrane is itself formed. But Mr. Parsons points out that the membrane of Bruch apparently consists of an inner homogeneous layer which is a cuticular product from the pigment epithelium and an outer lamina composed of elastic fibres and a mesoblastic product. The colloid bodies that have been not unfrequently observed both microscopically and with the ophthalmoscope consist of bulgings of the inner homogeneous portion of the membrane through the outer elastic layer. Ossification of the choroid has attracted the attention of many surgeons, though we believe that the late Mr. Hulke was the first to demonstrate the presence of true bone. It is defined by Mr. Parsons as the final stage of degeneration of the organised inflammatory deposits of plastic choroiditis; in some instances the bone is formed with considerable rapidity, having been found in one case ten weeks after an injury. It develops in fibrous tissue that replaces the chorio-capillaris and lies external to the membrane of Bruch; the osteoblasts are probably connective-tissue corpuscles. The tumours of the choroid that have been met with are dermoids, myoma, of which one case only has been recorded by Weiss, angioma, plexiform neuroma, and sarcoma, of which latter a very full account is given accompanied by many illustrations of its different forms.

The next chapter is occupied with the retina, the pathology of this membrane being preceded by a short sketch of its histology. Wounds of the retina are first considered, the consequences of which have been carefully investigated by Mr. Parsons himself. In his experiments, performed aseptically upon monkeys, a needle or Graefe's knife was made to puncture the sclerotic or cornea, and after traversing the media to cut or tear the retina from the inner side. In some instances cauterisation was resorted to. The eyes of the animals were examined after death by chloroform at periods varying from 22 hours to 285 days. At an early period numerous wandering cells are found in the vitreous which are believed by many to result from emigration of those contained in the blood-vessels, whilst other observers believe that they proceed from the proliferation of the normal cells found in the vitreous. The development of connective tissue which is frequently seen to take place after such injuries seems to point to the presence of plasma cells or fibroblasts. The retina itself becomes œdematous; the nerve fibre layer presents many varicose nerve fibres. No regeneration of nerve fibres has been observed. In the ganglion cell layer the changes are essentially degenerative, though appearances of cell proliferation by karyokinesis may also be present. The inner and outer reticular and outer nuclear layers become œdematous, degenerated, and atrophied, and the rods and cones are usually destroyed; the pigment epithelium is separated from the rest of the retina by exudate. The cells show fatty degeneration and vacuoles. Hæmorrhagic effusions are of course almost invariably present. The alterations in inflammation are then considered more in detail, the various vascular and proliferative

changes being fully described as well as those which occur in the process of degeneration.

Every ophthalmologist will be grateful to Mr. Parsons for the accounts which he has supplied from his own observations in part and in part from those of other observers of the various forms of inflammation known under the names of purulent or metastatic, septic, circinate-pigmentary, and proliferating retinitis, as well as the appearances presented in syphilis and in tubercle of the retina and in glioma. The cells in glioma are described as for the most part small, irregular in form, with large nuclei and but little cytoplasm; with these are associated cylindrical and fusiform cells, the former often arranged in rosettes, ganglion, neuroglial, and giant cells, all of which undergo degenerations of various kinds, such as fatty, hyaline, and pigmentary. The last two chapters of the book are occupied with the pathology of the optic nerve and of the orbit, the last including the lacrymal apparatus. Throughout the work, which is enriched with nearly 300, for the most part original, illustrations, the bibliography has been most carefully attended to, few cases of importance being omitted.

The Diagnosis and Treatment of Some of the Common Diseases of the Rectum and Anus. By CECIL H. LEAF, M.A., M.B. Cantab., F.R.C.S. Eng., Surgeon to the Cancer Hospital and to the Gordon Hospital for Rectal Diseases. London: E. H. Blakeley. 1905. Pp. 118. Price 3*s.* 6*d.*

THIS unpretending little work contains much more than is apparent at first sight. Although the title only claims that "some of the common diseases of the rectum" are dealt with there are really few that have been omitted. In a book such as this we have no right to expect elaborate descriptions of such operations as excision of the rectum, but the operative treatment of the equally important conditions, hæmorrhoids and fistula, is fully described. The chapter on the examination of the rectum is excellent and the description of the anatomy of the part is satisfactory. Those who wish for a somewhat elementary treatise on the diseases of this region cannot do better than read this book. There is but little to which we feel inclined to take exception but we cannot allow to pass without comment the spelling of "ileo pelvic-colon." We should like to know why the author spells this word with an "e." It can hardly be a misprint, for on p. 1 the term appears twice and moreover the bone is called the ileum on two occasions, and yet on the first line of the next page we find "iliac crest." Care should be taken to distinguish between "ilium," the bone, and "ileum," a portion of the small intestine. The ilio-pelvic colon is the name sometimes given to that portion of bowel which extends from the crest of the ilium to the third piece of the sacrum. We acknowledge that some other works confuse the two words but it is surely a pity, for derivationally they are distinct. We find that Mr. Leaf agrees with Sir Frederick Treves that the curves of the sigmoid colon do not resemble the letter Σ but of course this portion of the bowel was compared to the old Greek letter Sigma, which resembled our C, and this bears a close resemblance to the sigmoid curve. The word sigmoid is used with the same significance in the sigmoid notches of the ulna and the mandible.

The Microtomist's Vade-Mecum: A Handbook of the Methods of Microscopic Anatomy. By ARTHUR BOLLES LEE Sixth edition. London: J. & A. Churchill. 1905. Pp. 538. Price 15*s.* net.

THIS useful work, which was first published in 1885, has run through many editions and has now reached the sixth. The essential feature of the first edition was that it was a complete collection of methods, a work of reference for the already instructed anatomist, and only in a secondary degree a guide for the beginner. During successive editions this characteristic has gradually changed, the instructions to students and other explanatory matters have been amplified, and at the same time the number of methods described has been diminished, or, perhaps, it would be more correct to say, bearing in mind the progress of the microtomist's art, that a rigid selection has been made of those methods which experience has proved to be useful. The book in its present form is divided into two parts, of which the first treats of the general principles and theory of technical histological processes, while the second part deals with special methods. The process of evolution indicated above has led to the transference of much matter formerly included in the second part into the chapters devoted to general principles. These chapters now occupy rather more than half the book and form a very complete and valuable treatise on the principles and practice of histology. The chief changes in this edition, which though it contains much new matter is not enlarged, are found in the chapters on connective tissue, on blood and glands, and in the sections which deal with the nervous system. There is perhaps a tendency to neglect English work in favour of processes which have been described by foreign writers or have appeared in foreign periodicals. It is a book dealing with histology in a very wide sense and is not specially concerned with pathological changes or methods which demonstrate these and consequently is less useful to the medical man than other works of perhaps less merit. For those who wish to get a sound knowledge of the fundamental processes used in histological work this work will prove most valuable, while at the same time it forms a useful book of reference.

Annual Report of the Commissioner of Public Health, Philippine Islands. Published at Manila. Illustrated. 1905. Pp. 273.

THE birth-rate in the city of Manila for the year ended August 31st, 1904, is estimated at 23·83 per 1000 upon a population of 219,941; the mortality is estimated at 49·01 per 1000. Of children born in Manila no less than 50 per cent. die during the first year of life; the cause of this mortality is ascribed to "convulsions." The chief cause of the convulsions is apparently tetanus neonatorum due to septic infection of the umbilical cord. To the introduction of the nursing bottle and condensed milk amongst the Filipinos are also to be ascribed many of the fatal convulsive attacks which affect infants. Malaria is severe in several districts in the Philippines but taking the islands generally the disease is not rife. In Manila during the year ended August 31st, 1904, there were 181 deaths ascribed to malarial causes. Dysentery is regarded by the officers of the health department in Manila to be a water-borne disease. A new system of water-supply is being prepared and a diminution of dysenteric cases is confidently looked forward to. Dysentery in Manila caused 319 deaths during the year in question. Beri-beri is regarded by the authorities as one of the most dangerous ailments in the Philippines, although the natives have little dread of the disease. During the year 318 persons died from beri-beri in Manila. A diet deficient in nitrogen seemed to predispose to the disease. Leprosy is prevalent in the Philippines, where it is believed there are some 5000 sufferers from the disease; some estimates, however, place the numbers as high as 30,000. Small-pox and vaccination are receiving the close attention of the authorities. In Manila there were 73 cases of small-pox with 32 deaths during the year ended August 31st, 1904. There were no deaths amongst those protected by vaccination. No fewer than 151,463 vaccinations were performed in Manila during 1904. The Spaniards in the early part of the nineteenth century introduced vaccination into the Philippines and vaccination has been practised fairly widely throughout the islands ever since. Cholera, which had become practically extinct in the Philippines in the winter of

1901–02, re-appeared in March, 1902, and continued until April, 1904. During this period 166,252 cases were reported and 109,461 deaths from the disease—a case mortality of 65 per cent. The health authorities consider that under the conditions obtaining in the Philippines absolute quarantine is the most effective prophylactic measure. Plague was not experienced in an epidemic form in the Philippines during the year ending August 31st, 1904. At the Chinese plague hospital 19 patients only were treated, of whom 14 died.

With regard to anthrax, in a preliminary report on the presence of this disease in the Philippines R. H. McMullen advocates destruction of the carcasses of animals dead from the disease by burning or by burying the unopened carcasses six feet deep in the ground after liberal sprinkling with lime. Swine plague and hog cholera are met with widely distributed in the Philippines and M. I. Myers, who dealt with the outbreak, recommends as a curative agent a mixture of wood charcoal, sulphur, and sulphate of antimony, combined with several salts of sodium. Carcasses of animals dead from either disease should be burnt. Texas, or tick, fever prevails to a considerable extent in the Philippines. The only species of ticks met with by M. I. Myers in these islands are the boophilus australis and the dermacueter electus. Surra has been met with not only amongst horses in the Philippines but also amongst carabaos and cattle. The last chapter in the report is devoted to instructions concerning the "care of infants"; we regret to see amongst the directions given that it is necessary to mention "the nursing bottle." The disadvantages of civilisation seem already to have reached the natives of these islands to an extent little dreamt of by those who regarded the islanders of the Pacific as a "primitive" people.

Ambidexterity, or Two-handedness and Two-brainedness; an Argument for Natural Development and Rational Education. By JOHN JACKSON, F.E.I.S., with an Introduction by Major-General BADEN-POWELL, C.B. London: Kegan Paul, Trench, Trübner, and Co. 1905. Pp. 258.

Mr. Jackson, as is well known, is an enthusiastic exponent of the doctrine of ambidexterity. In this volume he has collected an extraordinary number of facts and opinions bearing on his favourite subject. A considerable space is devoted to a popular exposition and discussion of the various theories which seek to account for dextral pre-eminence. These theories the author groups under no less than 12 headings, which it would be out of place to recapitulate here, and his survey embraces the latest contribution to the subject by Professor D. J. Cunningham before the Anthropological Institute. We are then introduced to the opinion favoured by the author, which is "that 80 per cent. of normally two-handed persons are made one-handed solely by the pressure of early influences and training, in which nurses, mothers, teachers, and an uncompromising prejudice unite their misdirected forces ..... and thus our national education is little better than a crippling of the child's faculties and a serious diminution of the nation's efficiency." This opinion is the keynote of all which follows. The author urges that ambidexterity is possible for all and enumerates its many advantages. He reproduces letters and drawings to show that the right and left hands can be trained to engage simultaneously in different tasks and expresses the opinion that every person is capable of becoming expert in the execution of two different intelligent acts with his two hands simultaneously. Ambidextral training in writing, drawing, and various forms of craftsmanship is regarded as essential by Mr. Jackson who even advocates the rendering of bimanual training compulsory by law. The book will well repay a thoughtful perusal. The author's opinions are set forth with a refreshing vigour, whilst he appears to state very fairly the views of his opponents. Although not prepared to go to the extremes which he advocates, we think that he makes out a very good case for further attention to the training of the left hand.

LIBRARY TABLE.

The Surgical Assistant: a Manual for Students, Practitioners, Hospital Internes, and Nurses. By WALTER M. BRICKNER, B.S., M.D. New York City. With 123 original illustrations. New York: International Journal of Surgery Company. Pp. 363. Price $2.—On the intelligent help of his assistants much of the success of an operator depends and the greatest surgeons will willingly acknowledge this. But little help in the way of books has been afforded to the assistants at an operation. They have to pick up the knowledge as best they can, as a rule, and their lack of knowledge at first is often very irritating to the operator. Such a work as this should therefore prove of value to those for whom it is intended. The book consists essentially of two parts, fairly distinct. In the first part the author deals with the special ways in which an assistant can prove of value to his chief in dressings and in operations. In this portion there is given a good account of the preparation of a room in a private house for an operation, a matter of great importance. Another chapter is called Handing Instruments, and this is likely to prove useful. The second portion of the book contains descriptions of the various operations, especially from the standpoint of an assistant. There is an appendix describing the preliminary treatment and routine after-treatment of operative cases. We can speak very favourably of the work as it is carefully written and judicious in tone. We were rather surprised to read of the "sapheni" veins; if the correct Latin form is unknown surely the English name is good enough.

The Model Kitchen. By LUCY H. YATES. London: Longmans, Green, and Co. 1905. Pp. 118. Price 2*s.*—This excellent little book is principally addressed to the heads of families who live in "flats" and therefore have to content themselves with small kitchens in which space is valuable. It will also appeal to many who would like to cook now and then on a small scale in an ordinary apartment. In it will be found ample descriptions of numerous labour-saving and portable appliances intended to replace the open fire-places and the large pots and pans and kettles of other days. In the circumstances cooking stoves heated by gas or oil are a matter of course, but we regret that no caution is given as to the necessity for using them under a chimney if possible and never for any lengthened period in an unventilated place. Earthenware and china vessels are recommended for cooking in, the advantage of the latter being that they can be transferred without disturbance of their contents directly from the oven to the dining table. Apart from the use of the casserole and the marmite, to which a special chapter is devoted, most of the work here described is the making of extremely various savoury dishes and entrées. Other subjects dealt with under separate headings are the Chafing Dish, Good Coffee and Tea, and How to Serve a Dinner without a Maid. Some of the dishes which are neither rich nor highly seasoned will be very suitable for tempting the capricious appetite of a convalescent and the numerous illustrations will help to smooth away difficulties in the path of amateur cooks.

JOURNALS AND MAGAZINES.

The St. George's Hospital Gazette contains a sympathetic obituary account of the late Dr. John W. Ogle, to whose extensive reading, literary accomplishments, and kindly

intellectual personality testimony is borne. "P. F. T.," under the head of "Log-book Reminiscences," continues his interesting experiences in West Africa. "P. F. T.," on board a ship on which he was ship's surgeon, in talking of smoking-room *raconteurs*, says: "Quite our best man in this art was a middle-aged man with a slight American accent, whom we soon knew amongst ourselves as De Rougemont. He was best on the western coast of South America, but there was no part of the world mentioned in which he had not stayed or taken an interest. A collector of relics, he had strayed far and wide in search of novelties, and his efforts to be first in the field held one breathless. Totalling up all his experiences, I found that he must have lived 180 years odd in getting through them, but I was not so egregious an ass as to check his glorious career before he was half through. Night after night he relieved our tedium with some new adventure, but, alas! one evening he got on to his medical afflictions in Brazil, and my pained expression lost me many valuable prescriptions unknown to any but the Incas and himself." The *St. George's Hospital Gazette* has to lament at the beginning of the new session the death of an assistant physician and an assistant surgeon, the retirement of two full physicians, the death of a consulting physician, and the retirement of the secretary and the resident medical officer, both of whom had held their posts for a very large number of years. Todd and Marshall are household names with old St. George's men, who will hardly be able to imagine "the Corner" without them.

New Inventions.

A NEW FORM OF EYE FOR SURGICAL NEEDLES.

THE accompanying illustration shows a needle-eye designed to obviate the inconvenience and delay caused by the accidental unthreading of one's needle during suturing. It may be conveniently termed a "grip-eyed" needle and is especially adapted for performing continuous suture. By

pulling the suture into the narrow end of the eye the silk is firmly gripped so that it cannot slip out. This form of eye can be adapted to any pattern of needle and I have found it of especial value in all forms of intestinal anastomosis. The needles are made by Messrs. S. Maw, Son, and Sons of Aldersgate-street, London, E.C.

Upper Wimpole-street, W. HERBERT J. PATERSON.

MEDICINE AND THE LAW.

Instruction by Poster.

THE Lambeth borough council has recently issued posters with the intention of promoting temperance by warning "the man in the street" of the evils attendant upon indulgence in alcohol. As our contemporary, the *Law Journal*, comments upon this method of propagandism without impugning the right of a local authority to devote its revenues to such an object we will assume that the somewhat elastic powers granted by Parliament to the elected of the people have not been here exceeded. No one can deny that it is desirable that instruction should be afforded to our fellow citizens when it is likely that their physical or moral health may be benefited thereby and commerce, at all events, recognises the poster as an effective means of public education. It is, however, not so certain that the instruction and warning of which a poster may be considered capable will be of sufficient force to deter persons of weak will from a dangerous and attractive vice and in the case of those in whom the self-indulgent desire has become an irresistible craving the lesson is even less likely to be learnt. The dangers attendant upon over indulgence in alcohol are not quite upon the same footing as those which may result from such insanitary habits as, for example, expectoration in the streets. A reminder by public proclamation that such conduct is dirty and may conduce to the spreading of tuberculosis may be, and indeed has been, very useful in arresting the abuse, but a similar reminder that the drunkard is wont to become a physical and financial wreck is sure to be neglected largely. One reason of this is that the alcoholic subject, who is still so far from being a slave to his vice that good counsel might prevail with him, very generally fails to recognise that he is, or is likely to be, a drunkard. If this is so provided against in the poster the poster will have to be wilfully and wantonly exaggerated with a view to rendering its warning more forcible, with the obvious risk that the picture will become unrecognisable and that the force of its teaching will be weakened or wholly lost. We can instruct the young most readily in the matter of the baneful results of the abuse of alcohol and it is, we think, the duty of all responsible citizens to do so. Those of more mature age are less susceptible of influence but they also are not beyond the reach of sound reasoning and of the lessons taught by facts the truth of which they admit. Both young and old, however, in varying degrees are little likely to be affected by lurid instances which in their opinions are inapplicable to themselves. It would, perhaps, be rash to say that no instruction of a useful character can be imparted by means of the poster to those taking, or likely to take, the first steps towards an undue consumption of alcoholic liquors, but it may be suggested that the circulation of warnings in this manner is an experiment of doubtful efficacy and that doubtful experiments are more fittingly tried by benevolent associations or by philanthropic individuals than by public bodies dealing with revenues derived from the rates. The zeal of the Lambeth council is, however, a matter for congratulation and it will no doubt find many other ways of bettering the condition of its citizens less open to question than that commented upon.

Homicide by Neglect.

A curious case was tried by Mr. Justice Jelf at the Old Bailey on Oct. 17th. The prisoner was charged criminally with not having provided suitable food for his lying-in wife who on that account was unable to suckle her newly born child, with the result that the baby soon died. The coroner's jury had returned an unwarrantable verdict of murder against the negligent husband, whilst the magistrate before whom he was subsequently charged decided that his offence was manslaughter by neglect. At the sessions the grand jury threw out the Bill containing the latter charge; thereupon the prosecution declined to proceed with the indictment for murder upon the coroner's inquisition. Where a statutory duty is imposed, as upon a relieving officer, an indictment for manslaughter could be sustained if it were proved that he knew of a case of starvation and yet did not aid the person in fatal distress.

The Forensic Position of the Blind.

A case was reported in THE LANCET of May 6th, 1905, p. 1225, in which Dr. W. Wynn Westcott, at the Bethnal Green coroner's court, had before him a deaf and dumb mother as the identifying witness in an inquest concerning the overlying of her infant. On Oct. 12th, at the same place, in a similar case, the father, a blind musician, wished to identify the child, as his wife was too ill to attend the court. The coroner ruled that the witness could only affirm that "to the best of his knowledge and belief" the deceased was his child. Service upon an inquest jury would, of course, be excused in the case of one who could not give a verdict *super visum corporis*. Apart from these cases and accident claims arising under the Workmen's Compensation Act there are certain legal decisions concerning the blind and those whose eyesight is afflicted which are of medical interest. Incurable blindness is technically "a sickness"; near-sightedness is not a bodily infirmity within the terms of a policy of insurance; blindness within 56 and 57 Vict., cap. 42, s. 15, means too blind to be able to read the ordinary school books used by children. In cases when contributory negligence is alleged in connexion with the blind the jury will decide upon the merits of the case.

THE LANCET.

LONDON: SATURDAY, OCTOBER 28, 1905.

The Visit of the Paris Municipal Council to London.

THERE can be no doubt as to the real importance of the visit paid to London by the Paris Municipal Council. This was no mere delegation, for the council came practically in a body. There are 80 municipal councillors and 60 accepted the invitation, only two of whom were detained at the last moment. Considering that it was necessary to leave a few councillors in Paris to continue the business of the town and to receive the Prince of Bulgaria, a deputation of millers, and the delegates of a congress dealing with the question of milk-supply, the fact that 58 councillors were actually in London justifies the assertion that the council, practically speaking, came in its entirety. What, then, was the object and what will be the consequences of this important and unprecedented demonstration? The County Council of London and the Paris Municipal Council are the two greatest local governing bodies in the world. Between them they administer municipal service and look after the necessities of life and creature comforts for some 8,000,000 people. It is true that these two councils do not make laws but they have to do that which is as difficult, and at times more difficult. On them depends the success of the laws which their respective Parliaments have enacted, and in many instances the best of laws are of little or no avail unless the municipalities intrusted with their application intelligently and willingly lend their aid. On the other hand, if municipalities do not actually make laws they supply the evidence and often take the lead in the agitation which results in the enactment of new laws. Therefore a municipality must know how to administer such laws as exist and must be able to ascertain and to demonstrate what new laws are desirable. Needless to say that many, perhaps the majority, of these laws affect directly or indirectly the health of the community. Will the meeting of the two municipalities facilitate the accomplishment of these important duties? Has the spirit of emulation ever stimulated those who have important duties to perform? The answer is obvious. The more that municipalities know of one another the more likely are they to imitate what is best in each other's accomplishments. Where in such endeavours could a larger array of complex problems be found than those created by the vast accumulation of human beings called Paris and London. Also, it must be borne in mind that in the past the two cities were not only separated by the unfortunate hostility dividing the two nations: anything like intimate intercourse between London and Paris only became possible with the introduction of modern and improved methods of railway travelling. Consequently and in the course of ages a great dissimilitude has arisen between the two cities; but these differences, in some cases fundamental differences, only render the contrast more instructive.

There is, of course, nothing new in these considerations. Most municipalities realise that they can learn much from other towns and other countries. Therefore delegations from municipalities are given to travelling hither and thither in search of technical experience or novelties. In administrative matters, however, it does not suffice to convince technicians. Any important matter has to be voted by the entire council. Now nearly all the Paris councillors have seen the model common lodging-house called Carrington House and they have also seen the County Council's tramway depôt in Camberwell New road. Nothing exists in Paris that can in any way compare with these two municipal institutions. When, therefore, technicians report to the non-technicians of the Paris Municipal Council on these important matters they will now be much better understood. Indeed, and without entering into the details of any one particular question, it is quite certain that the Paris municipal councillors have now seen enough of London to listen with attention to any proposal that may be made which is based on the example or experience of the British metropolis. The same will certainly be said of the London County Council after it has paid its return visit to Paris. On both sides of the Channel the administrators of the great French and British cities will be much more disposed to avail themselves of each other's experience. In this exchange of good services we shall derive considerable advantage and our French friends will be no losers. Already, and to their great benefit, they have followed our example in respect to domestic drainage and the construction of a general system of sewers. With regard to the disposal of sewage Paris has had to do far more than London, for there is neither tidal river nor sea to help them out of the difficulty. The congestion of traffic, complicated by the privileges and monopolies of private companies which interfere with the adoption of a general scheme for rapid transference of passengers from end to end of the city, is a problem that equally affects both London and Paris. The paving and the cleansing of the streets and the prevention of the contamination of the subsoil by the droppings from horses, dogs, and other animals are difficulties that likewise and to a similar extent concern both cities. As for the housing of the poor, our Parisian friends may find in London a useful example. In any case, they are much in need of laws somewhat similar to our Common Lodging-houses Act, our Housing of the Working Classes Act, and other enactments concerning insanitary areas and dwellings, although the problem with them may present itself in a somewhat different manner. Whatever work, however, can be, and is, undertaken, both administrations are face to face with the same labour problems and the same necessity of checking the sweating system and of securing to the workers whom they employ the means of living a healthy life. So far back as 1848 the French legislature adopted a law against the sweating system and the London County Council has in many respects imitated the Paris Municipal Council in its dealings with labour. But in dealing with the poorer classes nothing could be more instructive than what Paris has to show in regard to its *cantines scolaires* and in that

respect our County Council as the education authority of London still has much to learn.

To enumerate and to explain all the technical matters with regard to which exchange of knowledge and experience between London and Paris would be useful to both cities is a task which would take much time to accomplish. It might be the subject-matter of a weighty volume and not a few chapters of such a volume have already appeared as special articles or reports in these columns. For the moment we are only desirous of emphasising the great benefits which are likely to accrue to both cities if they will endeavour to profit by each other's experience when dealing with the problems affecting the material welfare and health of their citizens. With this end in view we feel the utmost gratification at the success of the visit and heartily congratulate all those on both sides of the Channel who have contributed to that success. And we may add a special word of congratulation to Sir EDWIN CORNWALL, chairman of the London County Council, upon the honour of knighthood which HIS MAJESTY has been pleased to confer upon him.

Medical Education in London.

FOR those who have already passed from their medical schools to the active sphere of professional life the opening of the October session inevitably recalls the date at which with varied emotions they first entered upon their careers as students. As an anniversary the date inevitably engenders a thoughtful spirit which embraces the past, the present, and the future. This spirit finds its expression in the post-prandial speeches made whenever former students foregather and in these it is mostly characterised by anecdotal reminiscences, ranging from the dissecting room and the football field to the examination hall and the personalities of past friends and teachers. The inaugural addresses delivered to the new students supplement the feeling that is abroad. The speakers here more often look to the present and the future and, while the part of the prophet is difficult, by careful study of the addresses there is commonly much to be learnt of the general aims and hopes of the medical profession. We have already commented[1] upon the general expression in the introductory addresses of the urgent need of moral and pecuniary support for the advancement of medical science and it is with no desire to weaken the conviction of that primary necessity that we return to a more detailed consideration of one of the addresses—viz., that of Professor T. CLIFFORD ALLBUTT at King's College Hospital—whose words, though applicable primarily to a London audience, conveyed a message of the first importance to all our readers. The Regius Professor of Physic at the University of Cambridge occupies a position which lends peculiar force and interest to his remarks. He can speak of medical education in London from the point of view of one whose life is spent in the serener atmosphere of an educational centre free from many of the pressing anxieties of the metropolis, and free from the spirit of emulation and rivalry amongst the medical schools which has done much to hamper the development of the university spirit, even though it may have been helpful in maintaining a general high level of education. Professor CLIFFORD ALLBUTT is not by any means in the position of a detached observer, commenting upon matters of which he has no personal knowledge and in which his interest is purely academic. A large number of the medical students in London are members of the University of Cambridge and most of the Cambridge medical students are passed under review in London as they present themselves for various examinations. In this way, therefore, if in no other, Professor CLIFFORD ALLBUTT has become intimately acquainted with some of the results of medical education in London and his remarks have the value of those of a kindly and impartial critic. As all our readers have had the address before them in full it is unnecessary for us to point out that nowhere did Professor CLIFFORD ALLBUTT display the spirit of the partisan, while everywhere the polished diction and scholarly elegance which he has taught us to expect from him were fully in evidence.

Amongst the initial defects in education, speaking broadly of all forms of education, is the amount of time that must be spent in acquiring the habit of study. This in many cases cannot be helped, but over the number of facts that have to be mastered those responsible for a given curriculum have discretion. Professor CLIFFORD ALLBUTT appears to regard "facts" as being of minor importance and it is without doubt true that for educational purposes examinations and examiners frequently fail in their duty by attaching too great importance to verbal accuracy (which may often be merely the result of cramming) while insufficient stress is laid upon practical work. This charge was formerly brought against many of the examinations held in London, but there is abundant evidence at the higher examinations of the London Conjoint Board and of the University of London that clinical work is now held in greater estimation and that the man of book lore is being discouraged. Professor CLIFFORD ALLBUTT considers that in education the primary function of the teacher is to train the student to distinguish the important from the unimportant truths and to grasp quickly "the facts which matter,"—that is to say, that he considers that the first thing which the student must learn is "the habit of study." When he has this the good sense of examiners must be left to appreciate his memory of facts. In this connexion in his address he referred sympathetically, in speaking of chemistry, to the enormous burden imposed upon the memory of the medical student by the present system of education and examination leading to a natural tendency to dismiss a subject when once the goal has been reached. "Receptiveness has its limits and the ship must be lightened." Without doubt the modern student of medicine has a hard task before him, but it is often rendered needlessly hard by undue importance being attached to each subject by each teacher, and by insufficient attention to the interdependence of the different parts of the medical curriculum. The earlier subjects in the course of the training of the medical student have an importance beyond affording opportunities of training habits of observation, habits of study and manual dexterity; they supply the necessary groundwork or foundation of fact which is essential to the proper study of clinical work. It is mainly for this reason, we believe, that so much thought has been expended in the separation of

[1] THE LANCET, Oct. 14th, 1905, p. 1117.

the earlier studies from the clinical work, and the present danger of medical education throughout the kingdom lies in the amount of time demanded for the earlier studies at the expense of that devoted to clinical observation. It is upon this subject that Professor CLIFFORD ALLBUTT'S address is at the present moment peculiarly valuable. He enumerates the complex divisions of clinical work which fall to this period of a student's career, and it at once becomes evident that the last two academic years are wholly inadequate to afford opportunity for obtaining more than a mere smattering of them. Some of these subjects may belong to what is now regarded as the earlier scientific training but several of them can only be attended during the clinical period of study, to the manifest overcrowding of that period. In practice it has been found that the whole of the first three years has been annexed by the teachers of the earlier scientific subjects and with the uncertainty of the results of examinations students are fortunate, indeed, if at the end of this period they are free to commence their clinical work. And when they do so they find themselves confronted with more work than it is possible to get through, without great ability and considerable luck, in the statutory period of their two remaining years. Professor CLIFFORD ALLBUTT regards as possible an extension of the curriculum to six years, as in Germany, France, Italy, and other continental countries, but pending such an alteration he urges a revision of the curriculum to allow at least two and a half years to be spent in clinical work. He also, perhaps somewhat to the astonishment of his audience, warmly advocated the one-portal system of qualification, though this was natural, as under such a system a certain amount of time would certainly be saved.

It is at first sight curious, at a time when some of the London schools are resigning the giving of instruction in the earlier scientific subjects and devoting themselves purely to clinical work, to find Professor CLIFFORD ALLBUTT raising his voice in favour of instruction in country hospitals. He would seem to be in one voice advocating consolidation and recommending the opposite course. But this is not so. The union of the London hospitals will surely lead to arrangements for free interchange of students and in many cases it will tend to the inculcation of broader views and to weaken the spirit of dogmatism which so often results from the present system of separate centres. There would appear to be many difficulties under any general scheme of amalgamation, amongst which it is only necessary to mention that of "signing up" for attendance at lectures, and there would be some loss of the personal relation between the teacher and the student which has long been recognised to be the chief advantage of the smaller schools. But economy and efficiency seem to us to call for this reform. With regard to the wards of a country hospital, we see no reason why they should not furnish valuable material for clinical observation if the medical staffs can make any arrangements for the reception of students, and if it is understood that no new centres of education are being started, but merely wayside stations provided along an arduous track, whereat the traveller can obtain occasional refreshment. The limited time of the student is too precious for any part of it to be unproductive, and in the hospital of a great city the constant variety in the medical and surgical wards, as well as in the special departments, must of necessity be greater. Throughout Professor CLIFFORD ALLBUTT'S thoughtful address this was the only suggestion the force of which we had some difficulty in appreciating and it only remains to conclude with a word of gratitude to him for the valuable help which his words have rendered in the solution of some of the problems which surround the complex question of medical education in London.

Public Control and Public Health in the County of London.

WE have received from the Clerk to the London County Council a report by Mr. ALFRED SPENCER, chief officer of Public Control, which gives particulars of the work of his department for the year ended March, 1905. This report may be regarded as supplementary to that of the medical officer of health, inasmuch as it deals with several matters affecting either directly or indirectly the health and well-being of the dwellers in the metropolis. It opens with an interesting section on coroners, giving particulars as to the number of inquiries held in the several metropolitan districts and as to the remuneration of coroners and the costs of inquests. Useful and well-arranged tables are given, showing, as regards the several cases in which inquiry has taken place, the causes of death of the deceased, their ages at death, and the "findings" of the coroners' juries. The powers of the London County Council with reference to coroners differ considerably from those possessed by other local authorities. They consist chiefly in the appointment of these officers and the payment of their salaries, the apportionment of their districts and the regulations and disbursement of costs connected with the holding of inquests and last, but not least, in the provision of suitable coroners' courts, with convenient mortuary and post-mortem arrangements in connexion therewith. But in the judgment of the County Council even the exceptional powers which it possesses are inadequate for the administrative needs of the metropolis. Accordingly, on several recent occasions the Council has memorialised, hitherto unsuccessfully, the Lord Chancellor and the Home Secretary, urging upon them the desirability of amending the Coroners Acts. The following are among the more important alterations advocated by the County Council, the adoption of which, the Council believes, would lead to greater efficiency as well as to economy in the discharge of the work of the coroner's court: (1) that no death should be registered without attestation as to cause on a prescribed form, signed either by a medical practitioner after identification of the body or by the coroner after inquiry, the certificate being sent to the local registrar and not to the relatives of the deceased, as at present; (2) that medical investigators should be appointed to inquire into the causes of all uncertified deaths, to make post-mortem examinations when necessary, and to act as medical assessors to the coroner; and (3) that the number of jurymen should be reduced to half their present statutory minimum and that the "viewing of the body" by the jury should no longer be obligatory. The County Council

in its endeavours to obtain a revision of the present law is giving expression to general opinion to a great extent and if we are unable wholly to endorse the views expressed by the Council we can see that they are dictated by zeal for the public safety. The point upon which all are agreed is that the best available medical evidence should be obtained. With regard to medical investigators to assist coroners as assessors, a medical coroner requires no such assessors, while a lay coroner will only benefit by their aid if he is able to use them in the best manner and if the best sort of official is provided. These are large "ifs," for public bodies must safeguard public funds, while genuine professional experts will rightly demand special fees. A medical coroner can appreciate at its just value the medical evidence given before him by the proper person and can interpret it to the jury. If such a coroner views the body of the deceased the jury certainly need not be asked to do so. It is for these reasons that we have always upheld the appointment of medical coroners as leading both to efficiency and to economy—i.e., to the declared objects of the London County Council. We believe that if the Council made an invariable practice of appointing medical men to these posts the public would benefit thereby.

The action of the County Council under the Infant Life Protection Act of 1897 is particularly important at the present time in view of the recent revelations before the committee on physical deterioration as regards excessive infantile mortality in relation to the continued decline of the birth-rate. The Act, as a whole, has proved useful in safeguarding the lives of infants "put out to nurse" for a pecuniary consideration. It requires, under penalty, that persons who, for hire or reward, undertake the care of (1) more than one infant under the age of five years for a longer period than 48 hours, or (2) a single infant under two years old, in consideration of a lump sum payment not exceeding £20, shall notify the fact to the local authority. The giving of notice is also required on the removal of any infant and the coroner must be informed in the event of an infant's death. And, further, where an infant is known to be kept in conditions detrimental to health, power is given to the local authority to remove the infant to a workhouse. At the present time two male and three female inspectors are employed by the County Council for the purposes of the Infant Life Protection Act and during the year under review between 3000 and 4000 domiciliary visits have been paid by the inspectors with the object of securing compliance with its provisions. We are gratified to learn from the report that the keepers of "notified houses" are generally found to be respectable, hard-working women, anxious to do their best for the infants under their charge although the remuneration appears frequently to be insufficient for the services demanded. It is a matter of frequent experience for the inspectors to find adults in notified houses going short of food but in no case have they found the nurslings deprived of necessary nourishment. Statistics are given in the report as to the mortality occurring among these children but as the numbers dealt with are insignificant it is futile to draw comparisons between this and the mortality of infants nursed by their parents at home.

In regard to the action of the Poor-law authorities who have procured the introduction of a Bill into the House of Commons having for its object the further strengthening of the Infant Life Protection Act, the report assures us that the amendments of the present law advocated by the Poor-law authorities and fully approved by the London County Council would secure (1) the more adequate safeguarding of the lives of adopted infants; (2) the effective inspectorial supervision of lying-in homes and of persons who systematically advertise or answer advertisements for the care or adoption of nurse infants; and (3) the granting of powers to the local authorities to enforce the provisions of the Prevention of Cruelty to Children Act in respect of acts of cruelty to infants coming under the Infant Life Protection Act. Amendment of existing law on the foregoing lines has been on several occasions urged on the Government and in June, 1904, the Home Secretary was asked to receive a deputation from the London County Council on the subject. Mr. AKERS-DOUGLAS, however, declined to comply with this request on the ground that the Government was unable to introduce legislation of this nature during the session. Accordingly, both the Poor-law authorities and the London County Council found themselves once more foiled in their praiseworthy efforts for the adequate protection of infant life. These efforts, however, will assuredly be renewed on the first available opportunity and in the present state of public opinion we cannot doubt their eventual success. In the interest of the rising generation it is satisfactory to note that the protective action of the London County Council is by no means limited to the stage of infancy. The Employment of Children Act of 1903 gives power to the Council to regulate by by-law child labour under the age of 14 years and street trading under the age of 16 years. Section 3 of that Act prohibits the employment of children under 11 years of age in any sort of street trading and also forbids the employment of children under 14 years of age between the hours of nine in the evening and six in the morning without the formal consent of the local authority. No child may be required to lift or to carry heavy articles or to follow any occupation likely to injure health or to cause danger to life or limb, regard being had to his or her physical condition. The employment in various industries of "half-timers" under the Factory Act of 1901 is expressly prohibited by this Act and under the by-laws submitted by the Council to the Home Secretary, and now under consideration, the employment in any handicraft of school children, whether in whole or partial attendance, is carefully regulated. It is hoped that after the promised statutory inquiry these by-laws will be settled and put in force, for until this has been done there will be no effective means of checking the over-employment of school children which unfortunately now exists to a serious extent.

Under the same Act the Council has submitted for the Home Secretary's approval a series of by-laws as to street trading by persons under 16 years of age. These by-laws, which are fully set forth in the report, are designed to regulate the employment in this industry of both boys and girls of tender age. Many of the proposed by-laws are of a salutary character but as some of them will certainly provoke trade opposition we doubt whether the Council will obtain them without

modification after the statutory inquiry. Under the Shop Hours Acts, 1892-95, the employment in places of business of young persons of both sexes under the age of 18 years is limited to 74 hours a week, including meal-times. In order to secure compliance with the terms of that Act there are employed six male and three female inspectors, who last year made 120,000 inspections and discovered 7000 irregularities as regards the employment of 36,000 young persons engaged in London shops. The report states that there is a steady and satisfactory decrease in the cases of serious over-employment detected by the inspectors year after year. The Seats for Shop Assistants Act of 1899 is also reported to be working satisfactorily. The essential section of this Act is this: that in all rooms of a retail shop where female assistants are employed the employer must provide seats behind the counter, or in other suitable position, such seats being in the proportion of at least one seat to every three assistants employed. During the past year no legal proceedings have been taken under this Act; shopkeepers as a rule recognise the usefulness of its provisions and loyally endeavour to carry them into effect.

Annotations.

"Ne quid nimis."

SOME LESSONS OF THE ELECTRICAL EXHIBITION.

THE exhibition of electrical appliances which was held recently at Olympia lends decided force to the view that before long we shall see electricity employed in a good many fresh directions. Indeed, this mysterious form of energy as soon as it can be supplied abundantly and at a moderate cost, which we may expect to be the case at no very distant date, bids fair to become part and parcel of our daily needs and comforts. We are familiar with its application to lighting, to locomotion, to telegraphy, but less familiar, perhaps, with its use for domestic heating and cooking, for rocking the cradle, for keeping water and air pure and clean, for indicating time, for cleaning our boots and linen, and for other innumerable purposes. The meaning of it all is that electricity is, after all, an easily produced, easily transmitted, and an easily translated force. Energy must, of course, be spent to obtain it and we have only to await the time when its production will be reduced to an economical minimum and its uses will be universal and its applications well-nigh illimitable. As these applications increase so it may safely be predicted shall we probably find a new factor concerned in improving the public health in many directions. We have already evidence of this when we consider the hygienic improvement effected by the introduction of electric traction and of electric lighting. The universal adoption of electric heating should be productive of a similar hygienic gain In this connexion, however, the events at the centre of production must be taken into account. Where no direct natural power is available, as that supplied by the fall of water, coal is still our great source of energy and consequently of electricity, and it is desirable, therefore, to insure that in the methods used in the combustion of coal no offence against hygienic law is committed by the engines used to drive the dynamo. There are other directions also in which the universal application of electricity should be watched by those jealous for the public health. In spite of the great advances made in electrical engineering the systems of lighting in vogue have undergone but little development. The arc light and the incandescent filament were devised several years ago and there are few striking improvements to record in regard to their construction. Certain modifications in detail, it is true, have been made as, for example, in the use of a vacuum with the arc light and in the adoption of terminals which give a more brilliant light, while filaments with the same object in view and composed of materials other than carbon, such as osmium or rare metallic oxides, have been introduced into the electric incandescent lamp. The principle of the systems in the respective cases remains, however, the same. One mistake, we venture to think, is being made in devoting so much attention to increasing the brilliancy of the light rather than to new means of diffusing it. When the source of light is concentrated at a given point the eye invariably shirks the dazzling rays, whereas if the same intensity of light could be distributed the result would be pleasing and comfortable. Startlingly brilliant light as a source of advertising in our streets is open to considerable objection and the blazing arc lights with their intense yellow glare which have recently been adopted in many places in London may be a triumph as regards intensity of light but they are very trying to the eye. The sun, it is true, is the ideal source of light but we are not compelled to stare at it, or to be bombarded continuously by its rays. The recent display of so much intense lighting at Olympia was a source of considerable fatigue to the eye and the headache which some visitors complained of was undoubtedly due to the tiring effects of brilliant light. Other directions in which development is to be hoped for is in the means of storing electric force. As the exhibition amply evidenced, we have not advanced very much on the old Faure accumulator made of heavy lead plates. We have heard of the wonderful accumulator of Edison with its great portability and capacity but its application to practical use appears to be moving very slowly. Something like an advance will indeed be made when it becomes possible to drive a brougham 100 miles or so with a box of energy which is comparatively light and not bulky. The complications of the oil motor will thus be dispensed with as well as the nuisance arising from imperfectly consumed oil. The future is bound to see further developments and applications of electrical science of equal, if not of greater, wonder than before.

THE CONDITIONS OF MEDICAL PROGRESS.

THE interdependence of the different branches of knowledge renders it inevitable that any one of them which ceases to recognise, and to adapt itself to, the progress made in other directions must present a one-sided growth or even cease to develop at all. If this is so with abstract sciences, it is so still more with an art such as that of medicine which represents the practical side of knowledge. In days gone by scientific discoveries were chiefly made by workers in the field of medicine who pursued the path of research with the direct object of improving the existing means of combating disease. More recently the conditions have been reversed and advance in medicine has been mainly owing to the progress made in abstract science which has led to new therapeutic and diagnostic methods. In both cases the relation between medicine and science in general has been sufficiently close and any breach in the alliance would have been fatal to the growth of knowledge. Such is the burden of a most interesting address given by Dr. J. Michell Clarke to the Bath and Bristol Branch of the British Medical Association, an address which may be studied profitably by all members of the profession. Unfortunately, the conclusion which the speaker finally

reached at the end of his survey of the past as to the prospects of future triumphs did not form an entirely encouraging prophecy. He expressed the fear that owing to the growth of specialism there existed a tendency for medicine to cut itself off from that connexion with general knowledge which is so essential to its well-being. It is an unfortunate feature of the conditions now prevailing, in which the expansion of knowledge has been so great that no single worker can thoroughly master the whole of any one science, that every votary of research must be content to work at his own little corner of the field. In medicine this is increasingly the case. When we read, for example, of a congress of proctologists gravely meeting to discuss their specialty it does not need a Democritus to recognise the humour of the situation, though perhaps his weeping *confrère* might be excused for finding something pathetic in the contemplation of such a spectacle. When men are content, or at least find it profitable, to devote themselves to such minute fractions of the field of medicine and have to meet to compare the produce of their own little allotments it must indeed be difficult to keep medical knowledge abreast of the most recent scientific advances. But there are other obstacles to progress in this country. Not only have the earnest workers to run the gauntlet of ignorant outcry raised by the self-constituted champions of the lower animals which are necessarily used for research, but if rumour be correct the distinguished lay authorities who control the purse-strings of one of the great central hospital funds seriously question the advisability of allowing hospitals to retain the services of pathological and bacteriological experts. Such a step if really contemplated is most strongly to be deprecated as one fatal to all possibility of advance. To say nothing of the absolute necessity, for purposes of actual diagnosis, for the application of bacteriology to the investigation of cases of disease, it is only at hospitals where the sick are collected together for purposes of treatment that research into morbid processes can be carried on, and anything which tends to render such research more difficult must be a retrograde step. We cannot believe that subscribers to hospitals are so short-sighted as to wish their benefactions to be expended merely upon the relief of existing disease without a thought for the improvement of medical treatment in general, and it is sincerely to be hoped that no pedantic considerations of financial orthodoxy will so weigh with the administrators of the King's Hospital Fund as to cause them to be guilty of so fatal an error.

THE VIEWING OF BODIES.

AT a recent inquest at Annfield Plain Mr. Graham, the coroner for the Chester ward of the county of Durham, addressed to the jury some forcible observations upon the nature of the old custom of the coroner and jury viewing the body, and mentioned that the reason given by the Home Secretary for not introducing legislative change in the matter was that there was an absence of "expert opinion" in favour of it. He also gave it as his own view that coroners were afraid to press for the reform lest by doing away with an essential feature of the inquest they should bring about the abolition of inquests and of their own office at the same time. The Coroners Act, 1887, Section 4, (1), says: "The coroner and jury shall at the first sitting of the inquest view the body," and in THE LANCET of Sept. 16th attention was called to a case in which an acting coroner, sitting immediately after the decease of a coroner who had opened an inquest, applied to the Home Secretary to have the body exhumed in order that the section quoted might be satisfied by his viewing the body before proceeding to exercise his functions. A correspondent, whose letter is before us, writes of this ancient practice thus: "Those of your readers who have seen a British jury view a body will probably think that it matters very little whether or no the practice is continued; something wrapped in a white sheet, with a face at one end, momentarily seen from as far off as possible is enough for the eyes of the law." It is unnecessary to discuss the circumstances in which bodies were first laid before the juries who held inquests upon them, or the stages by which coroners have come to perform their present functions; it is enough to say that the efficient performance of the duties of a jury is neither promoted nor assisted by the mere sight of a dead body, or of some portion of it, in the manner described, and that under conditions easily conceivable the necessity for the "view" may be a source of danger to them and to others. It would be quite another matter if the law were to dispense with the viewing of the body at the time of the inquest by the jury and were to provide instead that the coroner, directly he is informed that there is a dead body upon which an inquest may have to be held, should proceed to make such an examination of it as would assist him in the performance of his duties. He could not, of course, do this unless he were a medical man, and as our readers are well aware THE LANCET has always maintained strenuously that only a medical practitioner can efficiently carry out a coroner's duties. These at the present time are confined to holding inquests upon a limited proportion of those dead bodies with regard to which no medical certificate is forthcoming, that is to say upon cases, apparently, of violent or unnatural death, or of sudden death of which the cause is unknown, or where death has occurred in a prison, or where some Act of Parliament requires an inquest to be held. The proper exercise of the discretion thus accorded to the coroner and the holding of inquests in thousands of cases of which the public hear nothing, call for medical training on the coroner's part even more imperatively than do the more sensational inquiries to which popular attention is frequently directed.

COPPER AS A PURIFIER OF POTABLE WATER.

THE assertion that if our present galvanised-iron cisterns were replaced by clean copper reservoirs there would be an end of water-borne disease sounds chimerical, but there seems to be little doubt that water kept in clean copper containers undergoes a distinctly purifying process as regards both its bacteriological and infusorial inhabitants. The fact that copper is sufficiently soluble in water to render the lattter sterile has suggested the treatment of polluted water with small quantities of copper salts and the results are very striking. Not only is the water freed from algæ and rendered odourless, colourless, and fit for consumption as regards its appearance, taste, and smell, but the action of the copper salt goes further and kills the micro-organisms. Such was, at any rate, the astonishing result reported in a practical experiment made by the public health authorities at Massachusetts and yet the addition of sulphate of copper amounted to only 1 part of the crystallised salt to over 8,000,000 parts of the water. The same effect is obtained, it is stated, by immersing in the water a bright sheet of the metal provided a sufficiently large surface of the metal is present in proportion to the bulk of the water. The application of the method is reported to be "practical, simple, and safe." Moreover, the amount of copper dissolved would appear to be in proportion to the amount of organic matter present, so that an insoluble deposit of copper is formed, the clear water being free from the metal. The question has been recently studied by the bacteriologist and analyst of the Government of Natal, Mr. H. Watkins-Pitchford, who concludes that 1 part of copper sulphate in 100,000 parts of water is

sufficient to destroy the ordinary bacterial flora of running water if allowed to act upon it for 24 hours. Again, 1 part of the copper sulphate in 75,000 parts of water—i.e., about a grain per gallon—is sufficient according to his observations to destroy the vitality of the typhoid bacillus in an infected water with an exposure of three hours. Copper vessels if presenting a sufficiently large polished surface exercise, he adds, a distinctly controlling influence upon the bacterial life present. He sums up by stating that in sulphate of copper used in water in the proportion indicated "we possess an agent which promises to be both valuable and safe," and practical trials he suggests should be made in view of the incidence of water-borne diseases upon the South African communities. It is an important observation that the water treated by the copper sulphate method becomes freed from the sulphate in proportion to the germicidal effect exerted by it, for this bears obviously on the question of the effects that minute traces of soluble copper might have upon health. If copper salts are shown to have such powerful effects upon pathogenic organisms it seems hardly possible that they would in the long run be entirely without disturbance upon the tissues of the human organism. There seems to be, as Mr. Watkins-Pitchford points out, however, a general agreement of scientific opinion that small quantities of copper can be ingested even regularly without producing any deleterious effects upon the system. Before any attempt is made to purify water in this manner and on a large scale, as when a community is affected by typhoid fever, this statement of the innocuousness of traces of copper salts should be very carefully examined.

GANGRENE OF THE TONSIL.

IN the *American Journal of the Medical Sciences* for October Dr. C. W. Richardson has published an important paper on a condition which, though apparently not very uncommon, is not well recognised—gangrenous tonsillitis. Within 14 months he has observed two cases but has been able to find on record only three other cases. In his first case the patient was a robust man, aged 45 years, addicted to alcohol. He came under medical observation with dysphagia and infiltration of the right side of the neck. His medical attendant observed white spots on the right tonsil, diagnosed diphtheria, and administered antitoxin. But the patient grew worse and became delirious on the ninth day. On the tenth day Dr. Richardson saw him in consultation. The temperature was 102° F., the pulse was 120, soft and compressible, and there was muttering delirium. The peculiar odour due to sloughing tissue, different from the fœtor of diphtheria, was present. The right tonsil and pillars of the fauces and the visible pharynx presented a continuous greyish, brownish, putty-like slough. The left tonsil and the soft palate were normal. A complete line of demarcation had formed between the healthy and the necrotic tissue. Death occurred two hours later. In the second case Dr. Richardson was asked to see in consultation on May 17th, 1904, an unusual case of ulceration of the tonsil. The patient was a man, aged 36 years, who denied exposure to the risk of contracting syphilis. On May 4th he was seen by his medical attendant and said that he had had a sore mouth and throat for several days. The temperature was 99·8°, the breath was extremely fœtid, the tongue was coated, the gums were congested and swollen and separated from the teeth, and there were some greyish patches along their lower borders. The tonsils, especially the right one, were much enlarged. Two days later there were ulcerative patches on the right tonsil. On the 12th the patient was much improved: the patches on the gums and tonsils had disappeared and the tonsils were much reduced in size. On the 15th there was a great change: the left tonsil was covered with a dirty greyish-looking patch and the temperature was 99·6°. Bacteriological examination failed to reveal the diphtheria bacillus. On the 17th the patient complained greatly of dyspnœa, pain in the throat, and dysphagia. The temperature was 100·2°. The right tonsil was covered with a blackish exudation, with an exceedingly offensive odour. The tonsil was vigorously curetted but healthy tissue could not be reached. On the 18th the slough had re-formed and was extending to the pillars of the fauces. Curetting was again performed. A smear from the tonsil showed an organism resembling the diplococcus lanceolatus in greater abundance than any other microbe and staphylococci. There were no spirilla or fusiform bacilli of Vincent. The gangrene extended in depth and extent and death from exhaustion occurred on June 1st. The following is an outline of the other recorded cases. A negro, aged 45 years, was admitted into hospital on August 13th suffering from sore throat. He was intolerant of examination of the throat in which little was noticed. He died on the 20th from hæmorrhage from the mouth and nose. The necropsy showed a large ulcer in the site of the right tonsil and extending to the posterior wall of the pharynx. To this a very offensive slough was attached.[1] In the second case the patient, a man, aged 26 years, had suffered from sore throat for a week. There were a peculiar pallor and partial stupor. The stench of the room was most offensive, suggesting some necrotic process. The gums, the inner surface of the lips, and the under surface of the tongue were covered with deep ulcers. The tonsils were deep red and swollen. On the left tonsil were greenish necrosed spots from which brownish grumous discharge was issuing. The gangrenous tissue was removed and nitric acid was applied. Recovery took place, but three months later the patient succumbed to another attack.[2] The third case is described as "gangrenous eschar of the tonsils." It occurred in a girl, aged ten years, who succumbed at the end of a week.[3] Dr. Richardson describes the stench in his cases as being like the odour of atrophic rhinitis, characteristic and never to be forgotten. It is noteworthy that in his second case the patient was in perfect health at the time of the attack.

PROPOSALS TO STRENGTHEN THE ADMINISTRATION OF THE SALE OF FOOD AND DRUGS ACTS.

THE importance of the efforts made, amongst others, by Sir Cuthbert Quilter, M.P., during the last two sessions of Parliament to secure the more effectual administration of the Sale of Food and Drugs Acts has scarcely been realised, probably because the matter has only come before the public in the form of occasional questions in the House of Commons and answers thereto by the Minister concerned. The fact remains, however, that step by step the Government has been urged to carry out certain recommendations of the Royal Commission on Arsenical Poisoning and previous departmental committees and that ultimately the President of the Local Government Board agreed in principle to the establishment of a new branch of his department. A preliminary grant was included in this year's Civil Service estimates and just before the close of the session, in reply to a further inquiry, Mr. Gerald Balfour stated that a special inspector had been appointed and that arrangements were being proceeded with as to the appointment of an assistant inspector; that the duty of the inspector would be to advise the Board as to the administration of the Sale of Food and Drugs Acts and other measures; to deal with matters relating to the purity and adulteration of food brought to the Board's notice by public

[1] R. B. Cragen: New York Medical Journal, Sept. 1st, 1888, p. 233.
[2] A. C. Howe: Philadelphia Medical Journal, March 7th, 1900, p. 643.
[3] J. F. McVeigh: Dublin Quarterly Journal of Medical Sciences, 1867, p. 78.

analysts, medical officers of health, and others; and to obtain information upon special questions relating to the purity and adulteration of food and the use of deleterious substances therein, and to make suitable inquiries and investigations for this purpose. He added that the inspector would make a report which would be included in the annual report of the Board's medical officer, under whose direction he would act. The necessity in the interests of the public health of much closer supervision over the manufacture, importation, and sale of articles of diet, including beverages, is recognised on all hands and it is to be hoped that the step taken by the Local Government Board will mark the inauguration of drastic reforms in this direction, embracing the fixing of legal definitions similar to those already formed for milk, butter, and coffee for other articles of food and drink. The catalogue of duties assigned to the new inspector inspires confidence in the good intentions of the department and it will be the duty of the Treasury and Parliament to see that the Board is supplied with adequate funds to enable it to prosecute unhampered the important and beneficent work to which it has set its hand.

THE EPIDEMIC OF TYPHOID FEVER AT BASINGSTOKE.

OF late years instances of carelessness or wrongheadedness on the part of those elected bodies which are placed in charge of the public health in various districts have become unpleasantly frequent. The last annual report of the Local Government Board contains an account of the Spennymoor case where the urban council, according to a report by Dr. R. J. Reece, was largely to blame for the unhealthiness of an important district. As recently as Sept. 30th we referred in these columns to the sanitary ineptitude existing at Brynmawr and Crickhowell, at both of which places the water-supply was allowed to be polluted by leakage from sewers and from privies. And now the sanitary authorities of the town of Basingstoke are being publicly blamed for default in their duties. Basingstoke for the last few weeks has been suffering from an epidemic of typhoid fever and on Oct. 10th there had been, it would seem from information before us, 128 cases with six deaths. It is stated that in July when the town drains were being examined certain of the channels were plugged in the course of the operations. When the work was finished all the plugs which had been inserted with the knowledge of the surveyor were removed and that official went for his holiday in due course. On his return on August 31st he was told that there had been an overflow of sewage and on making an examination he discovered that a plug of which he had no knowledge had been inserted and had not been removed. The overflow of sewage was found to have contaminated the water-supply either by leaking into a well or into a main which was open. The surveyor removed the plug but said nothing to the medical officer of health or to the sanitary authority of the serious mishap which he had discovered. On Sept. 18th two cases of typhoid fever were notified, yet no warning was given by the corporation or the health authority to the ratepayers although the contamination of the water must have been known to them. The correspondent who sends us this information also says that the town clerk wrote to him that it was impossible to warn all the ratepayers after Sept. 18th. This statement strikes us as rather silly; we are certain that if the Basingstoke ratepayers had been behindhand with their rates they would have been notified of the fact without any delay. On Oct. 12th the corporation held a special meeting for the discussion of the situation, inasmuch as by this time the number of cases had reached the significant total of 147. Until this time many citizens appear to have been quite unaware of their danger, and at the meeting the chief concern of the mayor and of the chairman of the health committee seems to have been in reference to the trade of the town which has apparently fallen off. The trade of the town may concern many urban councillors—it probably does—but what they should really be moved about is the short-sightedness and ineptitude which have conduced to a tragedy. How did an irresponsible workman come to plug a sewer? Why did the surveyor not report the fact of the plugged sewer? Why did not the corporation notify the townspeople that there was danger? The town council at the meeting held on Oct. 12th congratulated the health committee on its efficiency! We feel fairly certain that the Local Government Board will not be of the same opinion, but even if the report of the medical inspector who has been deputed to make an official inquiry proves complimentary to the energy of the authorities after the mischief was established there still remains for explanation the policy of concealment that was first pursued.

THE UNDERGROUND RAILWAY.

ANTISEPTIC treatment of the respiratory passages, the chief factor concerned being sulphurous acid, can no longer be indulged in on the underground railway. It will be useless now to send patients, as is said to have been done, to, say, Westminster Bridge and Baker Street Stations for the relief of bronchitic affections, since the special quality of the old atmosphere at these stations has been removed by substituting electric traction for the steam engine. The pollution arising from the burning of sulphurous coal if it occurs anywhere will be at the electrical generating stations and it behoves the companies concerned to see that the evil so satisfactorily suppressed in one place does not appear at another. The improvement of the air on the underground railway is manifest to everyone who has recently travelled by the line and even traces of ozone may be detected in the tunnels owing to the multiple electric discharges which take place on the live rail. He would have been a bold seer who would have declared his belief ten years ago that the time would come when not only would the output of evil gases on the underground railway be stopped and an inodorous and comparatively pure supply of air be maintained but that in addition the air would be to some extent ozonised. Yet such is now the case, although it is true that traces of the old pollution occur when the few steam-propelled trains that are left, such as the London and North-Western trains from Mansion House to Broad-street and those providing a local service, pass through the tunnels. We believe that in the future the air of the underground railway will be practically free from reproach, since the tunnels have the undoubted advantage of not being laid deeply beneath the surface and consequently ventilation is a comparatively simple matter and almost automatic, which is not the case, of course, with the deeply laid "tubes." Incidentally also it may be remarked that the inconvenience and delay of lifts to and from the trains on the "tubes" do not obtain on the underground railway. Still, too much care can hardly be given to the provision of ventilation not only for the tunnels but for the carriages also. Complaint has already been made of the overcrowding of the electric trains but doubtless this will be remedied as the service improves. It was never a source of grumbling under the old system of steam traction that the underground railway was cold; indeed, the warmth of the trains and tunnels was a matter of common appreciation in the winter although, of course, in the summer the heat was at times intolerable. During the recent "snap" of cold weather the railway under the new régime has been, on the contrary, cold almost to the point of discomfort, the warming apparatus now provided not so far having been requisitioned. It will be interesting to know whether the introduction of electric traction will

affect the bacteriology of the air less favourably than did steam traction, for pathogenic organisms were not calculated to survive for long the accumulated acrid constituents arising from the combustion of coal; but the passage, so to speak, from the antiseptic to the aseptic method on the underground railway will be vastly preferred so long as the aseptic policy of supplying plenty of fresh air is carefully pursued. There are doubtless some persons who hold that conditions which make for health are not necessarily interchangeable terms with conditions which make for comfort and who will devoutly wish that they could have their warm, dust-clogged, cushioned first-class compartments again instead of the long, cool, airy corridor car with its none too accommodating but comparatively dust-free cane-bottomed seats.

THE ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late S ñor Alvarenga and amounting to about $180, will be made on July 14th, 1906, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine but must not have been published. They must be typewritten and must be received by the secretary of the College on or before May 1st, 1906. Each essay must be sent without signature but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1905 has been awarded to Dr. D. Chalmers Watson of Edinburgh for his essay entitled, "The Importance of Diet, an Experimental Study from a New Standpoint."

EXTREMELY LONG DURATION OF PREGNANCY.

CASES in which pregnancy is alleged to be prolonged beyond the normal period have always presented a difficult problem. Sources of fallacy can seldom be excluded and when the woman has lived apart from her husband during the pregnancy and the question of the legitimacy of the child arises the motive for misrepresentation is obvious. In the *Journal of the American Medical Association* of Sept. 30th Dr. A. Lamb has reported a case of extremely long duration of pregnancy which is important as the data appear to be quite trustworthy. The subject was a healthy woman, aged 46 years, who had had nine normal labours. Her eldest child was aged 23 years and her youngest was aged five years. She always vomited in the first three months of pregnancy and never had deviated more than a week from the expected date of her confinement. Menstruation was regular until the birth of the last child, since when she had missed one or two periods which she thought was due to the menopause. On June 29th, 1904, she commenced to vomit and a few days later menstruation failed to appear. On July 1st her husband was called away to a distant place by his work and he did not return until after the confinement. When he left she was considered to be pregnant. The last day of the last period was June 9th and the vomiting continued until March 1st, 1905. Fœtal movements were first felt on Oct. 15th, 1904. On April 1st, 1905, the patient was worrying because she had passed the expected time of her confinement. Examination showed the appearances of term. On May 6th another examination was made; the fœtal movements were very active, the head was above the brim, and two rounded masses were felt at the external os and appeared to be attached to the cervix. Dr. Lamb then became anxious about letting the pregnancy go on any longer and prescribed five grains of quinine every four hours. Labour took place on May 10th, 1905. During the second stage the two masses, which had been previously noticed, were felt to descend and Dr. Lamb realised that there was some abnormal condition. An anencephalic monster was born and the masses which had been felt proved to be exposed brain. The child was a very large male and well developed except for the head. An hour before birth the fœtal heart was distinctly heard and the fœtal movements were very active. The child measured 22½ inches and weighed ten pounds. The duration of the pregnancy, counting from the last day of menstruation, was 335 days. The period which elapsed since the last intercourse was 313 days. Dr. Lamb suggests that the patient's age and the number of previous pregnancies may have contributed to uterine sluggishness and prolonged the duration of pregnancy but that the condition of the head prevented engagement, interfered with dilatation of the uterus, and played a more important part. The question arises, How long would pregnancy have gone on if quinine had not been given to excite uterine contractions?

THE IMMUNITY UNIT FOR STANDARDISING DIPHTHERIA ANTITOXIN.

A DIPHTHERIA antitoxin has been included in the recent edition of the United States Pharmacopœia and is described as "a fluid separated from the coagulated blood of a horse immunised through the inoculation of diphtheric toxin." The average dose is given as 3000 units and the immunising dose for healthy persons as 500 units. Care should be taken to preserve the serum in sealed glass containers in a dark place at temperatures between 40° and 59° F. Diphtheria antitoxin, also called antidiphtheric serum, gradually loses its strength, the loss in one year varying between 10 and 30 per cent. The standard of strength, expressed in units of antitoxic power, is that adopted by the United States Public Health and Marine Hospital Service. A full account of the method of standardisation is given by Dr. Milton J. Rosenau, director of the Hygienic Laboratory, in Bulletin No. 21, Hygienic Laboratory, United States Public Health and Marine Hospital Service, 1905. As the unit is based on the one established by Ehrlich the bulletin contains an account of Ehrlich's side-chain theory of immunity. The immunity unit is very fully described. It is briefly defined as "the neutralising power possessed by an arbitrary quantity of diphtheria antitoxic serum kept under special conditions, to prevent deterioration, in an authorised laboratory." From a theoretical point of view the unit is defined as "that quantity of diphtheria antitoxic serum which will just neutralise 200 minimal lethal doses of a pure poison." By a pure poison is understood one containing only toxin and free from toxoid, toxone, or other substances capable of uniting with the antibodies. Reference is made to the report of THE LANCET Commission,[1] wherein the unfavourable results obtained in England in 1895 were attributed in a great majority of cases to the use of serums too weak to produce therapeutic results. The experimental work of Madsen of Copenhagen (1896) and of others showed that for therapeutic purposes weak serum is of very little value. The strength of antitoxin contained in a unit is determined by injecting the toxin and antitoxin mixtures into guinea-pigs and noting the extent of neutralisation of the toxin by the antitoxin. Separate chapters of the bulletin are devoted to the constitution of the toxin and its relation to antitoxin; the modes of preparing, preserving, and testing the toxin and antitoxin; details of the method employed in making

[1] THE LANCET, July 18th, 1896, p. 182.

the unit; and the examination of serums made by licensed manufacturers. The bulletin also includes the full text of the monograph on diphtheria antitoxin in the new United States Pharmacopœia, a description of the official methods used in Germany for testing diphtheria toxin and antitoxin, and an excellent bibliographical appendix.

QUACKERY AND ABORTION.

A "well-dressed young man," 24 years of age, who until recently traded in "remedies" for females under the name of "Nurse Smith," had a lucky escape at the recent East Yorkshire quarter sessions. From "Nurse Smith" a man had obtained on several occasions boxes of pills and also a bottle of some liquid mixture with a view to procure the miscarriage of a young woman who was pregnant by him. At the house which the accused had occupied pills were found which proved upon analysis to contain substances which might be dangerous to life. The young woman, however, after taking some of those sent to her without effect, had destroyed the remainder as well as the mixture, with the result that when the quack was indicted for supplying noxious drugs knowing that they were to be used for a felonious purpose there was no evidence before the jury as to what he had in fact sent to the girl, and in these circumstances the bench had no alternative but to direct the jury to acquit. It is to be hoped that "Nurse Smith" will have lost his business and that the police will be able to keep a watchful eye upon him in case he should attempt to recommence trading under a fresh name and at a new address. The profits of such trade and the consequent likelihood that he will try to renew it may be gauged from the fact that in the house which he occupied were found postal orders of the value of £6 9s., all received in the course of one day. Probably 9s. would be a liberal allowance for the cost of the pills, potions, bottles, and boxes represented by this sum, so that if this day was a fair sample "Nurse Smith's" annual profits would be something over £1800, less the cost of advertising for dupes. The advertisements of traders of this class are so thinly veiled and are so essential to the carrying on of their business that very little vigilance and activity on the part of the police would render their dealings impossible. Nevertheless, no attempt seems to be made to interfere with them until they in some way become so obtrusive that they can be ignored no longer.

GANGRENE OF THE FINGERS PRODUCED BY AN IMPURE CARBOLISED DRESSING.

A CASE of gangrene of the fingers produced by carbolised dressings has been brought by M. Cotte to the notice of the Société Nationale de Médecine de Lyon and is recorded in the *Répertoire de Pharmacie* of July 10th. A young girl dressed a small cut on her right middle finger with a moist carbolised dressing prepared with some carbolic acid which she had previously procured for the purpose of disinfecting a room. She prepared a compress, soaked it in the disinfectant, and applied it to her finger. The dressing remained in position through the night and no pain was experienced until the morning, when her finger was insensible, as if dead. Four or five days later the extremity of the finger became black. She consulted a physician who at once recognised that it was due to gangrene produced by carbolic acid. Nine days later the extremity of the finger had become mummified and afterwards the nail became detached and fell off. Ultimately a sharp line of demarcation appeared between the mortified portion and the rest of the finger, the mortified portion separating after about six weeks. Similar cases were reported by Dr. Langier at a meeting of the Académie de Médecine on Dec. 26th, 1894.[1] Quite recently Dr. J. Carles of Bordeaux cited a similar case of a woman who bruised her thumb in breaking coal. A dressing impregnated with diluted carbolic acid was applied to the part. On this occasion also no pain was felt during the night but in the morning the thumb was black and the area covered by the dressing was insensible. Eventually, after six weeks, the mortified portion became detached. It is advisable that care should be taken to abstain from the use of carbolised dressings in the case of wounds on the fingers, which appear to be peculiarly susceptible to the action of carbolic acid. A noteworthy fact in connexion with at least one of the cases here cited is that the carbolic acid employed was such as is used for disinfecting purposes and therefore impure in quality.

[1] Répertoire de Pharmacie, 1895, p. 23.

BROMPTON HOSPITAL LECTURES.

LECTURES and demonstrations free to all qualified medical practitioners and students of medicine will be delivered at the Hospital for Consumption and Diseases of the Chest, Brompton, every Wednesday up to Dec. 13th, inclusive, at 4 P.M., with the exception of the lecture on Nov. 15th which will be delivered at 3 P.M. The lecturers and subjects are as follows: Nov. 1st, Dr. S. H. Habershon, Clinical Lecture on Cases in the Wards; Nov. 8th, Dr. J. J. Perkins on Syphilitic Disease of the Respiratory Organs; Nov. 15th, Dr. F. J. Wethered on the Early Diagnosis of Pulmonary Tuberculosis (this lecture will be delivered at 3 P.M.); Nov. 22nd, Dr. W. C. Bosanquet on Congenital Malformation of the Heart; Nov. 29th, Dr. G. Schorstein on Mitral Stenosis; Dec. 6th, Dr. R. A. Young on Bronchiectasis in Children; and Dec. 13th, Dr. H. Batty Shaw on the Element of Prognosis in Pulmonary Tuberculosis.

THE CARE OF THE FEEBLE-MINDED.

THE problem of the supervision and instruction of children and young adults who are mentally defective, which first began to excite interest in this country some 60 years ago, may be said to be receiving at present more attention than at any previous time. In this, as in many other matters, we are indebted to private initiative and charity for the inception and management of an undertaking the organisation and control of which should be the function of the State or its representative local authority. The charitable institutions which have from time to time been erected for the care of the feeble-minded are mostly still available and are doing good work, but of late years it has become increasingly apparent that the accommodation provided for this class is insufficient and many asylum authorities have erected blocks or allocated wards for the reception of imbeciles. But whilst institutional treatment meets the case of the graver varieties of mental defect and is also capable of doing much for the improvable imbecile, it does not adequately supply the requirements of the great bulk of the feeble-minded which is composed of the milder forms of defect. It is to the needs of this class that attention is now being specially directed. The methods advocated for dealing with these varieties of mental defect by those who have studied the problem embrace special schools with arrangements for boarding and supervision, custodial homes with industrial colonies and after-care for cases for whom employment has been found, and home care. These methods were discussed at the Fourth International Home Relief Congress held at Edinburgh last year. The subject is a wide one and opinion is still in process of formation upon it. The proposition that home care is unsuitable for, at any rate, the bulk of cases of mental defect will probably be generally subscribed to, as will the view that in regard to schools of special instruction the merely permissive nature of

the Elementary Education (Defective and Epileptic Children) Act, 1899, is insufficient. A more debateable point is that of the permanent detention of the feeble-minded in the interests of posterity, a course which has its advocates who hold that legislation is required which will enable the State to take permanent charge either of every weak-minded child or of every weak-mined person above 16 years of age whose segregation cannot be otherwise guaranteed. The degree or quality of mental defect which calls for such treatment would need to be defined. The definition, it may confidently be anticipated, would include cases of "moral" imbecility.

HUNTINGDON'S OR HEREDITARY CHOREA.

ONE of the distinguishing features, as is well known, of this chronic, progressive form of chorea is the presence of mental disturbance which commonly takes the form of progressive dementia. It is very seldom that cases of this disease are reported from asylums for the insane and it would be of interest to learn to what extent the disease occurs in them. Probably it is but rarely met with in any form of practice. A case is reported in the columns of THE LANCET this week (p. 1252) from the West Sussex Asylum by Dr. G. E. Peachell and is of interest more especially because the necropsy failed to show any marked pathological change, no more, it is stated, than might be found in a case of senile dementia. It is, in fact, highly probable that some of the pathological conditions described in cases of this disease have been merely senile changes. Nevertheless, apart from macroscopic changes, which take the form of chronic meningo-encephalitis with atrophy of the convolutions, various writers have recorded microscopical changes in many cases, both in the nerve cells and interstitial tissues of the cerebral cortex. In the present instance van Gieson's hæmatoxylin stain was employed; this is a collective stain, calculated to bring out the various elements of the cerebral cortex quite sufficiently for purposes of orientation. That histological changes, though not of a specific character, are frequently present in the cortex and also in other parts of the cerebro-spinal axis in Huntingdon's chorea must be admitted in view of the numerous observations on record. But in this, as in other disorders of the nervous system, we are as yet unable to say whether these changes are primarily parenchymatous and due to causes affecting the neuron or primarily interstitial and vascular. The balance of opinion would appear to be in favour of the former view but it must be admitted that we know nothing of the pathology of this disease.

THE ROYAL SANITARY INSTITUTE AND ITS PROVINCIAL MEETINGS.

IN the year 1903 the Royal Sanitary Institute commenced to hold provincial sessional meetings. Since then some 15 meetings have been held in various centres, amongst them being Manchester, Liverpool, Birmingham, Bristol, Cardiff, York, and Cambridge. This year, however, a somewhat new departure has been taken. The institute has notified that on Nov. 14th a provincial sessional meeting will be held at the Guildhall, Northampton, at 11 A.M. A discussion will be held on the Boot and Shoe Trade as it Affects the Workers and on the Mortality Statistics of Boot and Shoe Workers in Northampton. It is an excellent idea to hold provincial meetings at individual centres at which is discussed the hygiene of the trade of the particular centre at which the meeting is held. Information can, of course, be obtained at first hand and we see that at the Northampton meeting, in addition to officials such as Mr. C. F. Wright, the chief factory inspector of Northampton, and Dr. James Beatty, medical officer of health of Northampton, practical boot and shoe workers are to speak. We hope that the Royal Sanitary Institute will continue in after years to hold such meetings in manufacturing centres where there are trades which are particularly harmful or carried on under unhealthy conditions—e.g., Bradford, Sheffield, the Potteries—for by so doing much valuable information could be collected. Trade is nowadays so complex a matter and so many factors are concerned in bringing about success or failure that anything which may throw light upon the circumstances amid which those concerned in production are employed should be welcomed not by workers only but also by their employers. It is not given to every employer to found a Bournville or a Port Sunlight, and in many instances the workers themselves are to blame for injuries received in their trade, but an inquiry by an expert body such as the Royal Sanitary Institute should be productive of nothing but good.

QUACKERY 100 YEARS AGO.

A GLANCE at the reproductions of the *Times* and the *Observer* of 100 years ago, which have just been issued in connexion with the Nelson centenary celebrations, will show that the quack, who is with us so ostentatiously now, has always been with us, and this was to be expected, human nature having undergone no marked change in a century of progress. Some of the advertisements in the *Times* were of "Dr. Steer's opodeldoc for rheumatisms, sprains, chilblains, &c.," "Whitehead's Essence of Mustard," "Whitehead's Family Cerate," "Dr. James's Analeptic Pills," and "Dr. Solomon's Cordial Balm of Gilead"—to select interesting examples. The last was sold in Liverpool in bottles at 10*s.* 6*d.* and the patient could have a bottle four times the size and "save 9*s.* in 2 guineas. The postage of all letters must be paid and half a guinea inclosed for advice," Dr. Solomon evidently feeling that the associations with his name should make his judgments valuable. "Leake's Patent Pills prepared and sold by the sole proprietor, Thomas Taylor, Member of the Royal College of Surgeons, London, at his house, No. 9, New Bridge Street, in boxes at 2*s.* 9*d.* each," is an announcement which leads to the reflection that certain members of the medical profession were careless of the honour of that profession, unless the absence of a Medical Register allowed these announcements to be made falsely—which is quite possible. The *Observer* of a century back advertised among other diverting things, "Madden's Vegetable Essence for asthma, coughs, consumptions, &c.," to which a testimonial is appended containing the names of many "Esquires" with the words "Bank of England" attached, who declare it to be their opinion "that Mr. Madden, for having already so long sacrificed his Ease and Interest to his Benevolence and Humanity in dispensing it gratuitously to his suffering Friends, Neighbours and Acquaintance, for having now offered it for public sale, at a price which will preclude but few from purchasing, and for his benevolent intention of continuing to dispense it gratuitously to those who cannot afford to pay, is justly entitled to the Thanks of the Public." Madden's essence could "be had in Bottles, price Seven Shillings, Stamp included, at his Son's, B. Madden, No. 14, Gloucester-street, Queen-square, Bloomsbury," and it is possible that the practical appreciation of a purchasing public was more to his taste than abstract gratitude. Howley's Invaluable Fever Pills are also advertised in the *Observer*, of which "Two only, at once taking, cured Mr. John Sartin, a shoemaker, supposed to be on his death-bed, of a violent Fever, of which his Wife had died, and he never ailed anything for 20 years after. Four doses of them, in ten days, cured Mr. Wm. Lewis, a watchmaker, in the year 1800, of a Dropsy, supposed incurable, so as not to return again ever since,—which cures are verifyed by Affidavits sworn before the Lord Mayor." On the

same page of the *Observer* we are told that "The following remarkable cures of Cancers, without incision, by Mrs. Plunket Edgcumbe of Bath, may be depended on, as the Cancers are preserved in Spirits." "The Rev. Wm. Barclay's Antibilious Deobstruent Pills" must also have been remarkable, for we read that "The Public are requested to observe, that as the great benefit to be derived from the above Patent Medicine, depends upon the Pills being genuine, his Majesty's Hon. Commissioners of the Stamp Duties, have been pleased to grant to the Rev. Wm. Barclay, the sole Inventor and Patentee of the Antibilious Deobstruent Pills, the name of 'The Rev. William Barclay, Stafford-street, Old Bond-street,' to be engraved on a Black Stamp, which Stamp is affixed on each Box; all others are counterfeit; and any person vending the same will be prosecuted with the utmost severity of the law. The Medicines of Dr. Barclay have been used with the greatest success by the following distinguished Personages." Here follow the names of "His Grace the Archbishop of Canterbury, The Lord Bishop of Bath and Wells," and a string of "M.P.'s." "Dr." William Barclay has his legitimate descendants in the newspapers of to-day, for the "reverent" quack more than occasionally calls for comment in our columns. Mr. Martin Bree, Member of the Royal College of Surgeons, who had written without fear of interference on the part of his College, and unfettered by the regulations of any central disciplinary body, "Observations on the Cure of Complaints where Secrecy is Indispensable" announces that his wares are sold in the Strand, he "having resigned all other practice for this peculiar line." He is "sufficiently gratified in curing certain disorders which were formerly considered impossible to cure, and in rendering mild, and comparatively harmless, that dreadful scourge, by which America was said to have revenged herself for the cruelty of her first invaders. ..... All letters are expected to enclose a One Pound Note." Mr. Bree goes so far as to trust "that his mode of treatment is superior to any, and that his regularity distinguishes him from those who practice without such qualification"—an expression of confidence which in two lines of advertisement justifies the whole of the Medical Acts. Other nostrums, such as "Dr. Carruther's drops," "Russia Oil" for the hair, "Robbard's improved Balsamic Elixir," "Ford's Pectoral Balsam of Horehound," a tooth powder, and "Prince's Paste Pearls (for concealing decayed teeth in front, so as not to be discovered they are decayed. Ladies and Gentlemen may apply these paste pearls themselves in a moment by following the inclosed directions)," prove how the vendors of cosmetics and æsthetic improvers were then as now running hand in hand with the charlatans having more directly therapeutic intentions. Indeed, perusal of these interesting reprints, solely from their advertisement attitude, shows that the quacks of the eighteenth and early nineteenth centuries worked upon lines identical with those now employed, with as much immunity and as much success. The progress of knowledge and the education of the public ought to have made more difference in the public attitude.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906.

THE Fifteenth meeting of the International Congress of Medicine will be held at Lisbon from April 19th to 26th, 1906. The executive committee, guided by its energetic secretary, Professor Miguel Bombarda, is taking every precaution to overcome the difficulties which reduced the Madrid meeting to a state of chaos. There is every reason, therefore, to hope that the meeting will be at least as pleasant and well managed as the Congress at Paris or as the recent meeting of the International Society of Surgery at Brussels. One of the chief difficulties in the matter of the Lisbon Congress is the accommodation of visitors, because the really first-rate hotels in the city are very few. The national committee for Great Britain and Ireland has therefore made a wise departure. It has approached Messrs. Thomas Cook and Son with a view to charter a vessel in order to convey the British members to Lisbon, to serve them as a hotel during the Congress, and to bring them back again to London as soon as it is over. Messrs. Thomas Cook and Son now announce that they have obtained the s.s. *Ophir* for this purpose. The boat is well known for its large size and first-rate passenger accommodation and was the vessel in which T.R.H. the Prince and Princess of Wales recently made a voyage to Australia. It is proposed that the *Ophir* should leave London on the afternoon of Thursday, April 12th—the day before Good Friday—and return to London early in the morning of Monday April 30th. The fares are fixed at from 15 to 35 guineas per person according to the position of the cabin, including food and free communication at frequent intervals between the ship and the shore. Whilst the vessel lies in the Tagus the harbour authorities have allotted to it the berth lately given to the Royal yacht when H.M. the Queen with H.R.H. Princess Victoria paid a visit to Lisbon. The berth lies about 500 yards from the shore in deep water and with a swift stream. It is hoped that the employment of the *Ophir* will obviate the necessity of making arrangements for lodgings in Lisbon as passengers will be able to retain their cabins and meals will be served at regular hours. The *Ophir* will proceed to Tangier and Gibraltar and will touch at Vigo. The British colony at Oporto are especially anxious to show some civility to the members of the Congress and arrangements are therefore being made to stay at least one day at Leixoes either in going or returning. It is hoped that early application will be made for berths on the *Ophir* as the accommodation is of necessity limited and it will be allotted in rotation. The honorary secretaries are Mr. D'Arcy Power, 10A, Chandos-street, Cavendish-square, London, W., and Dr. Clive Riviere, 19, Devonshire-street, London, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ANNUAL MEETING OF FELLOWS AND MEMBERS.

THE annual meeting of the Fellows and Members of the Royal College of Surgeons of England will be held on Thursday, Nov. 16th, at 3 P.M., and the annual report of the Council will be laid before the meeting. Motions to be brought forward at the meeting must be signed by the mover or by the mover and other Fellows and Members and must be received by the secretary not later than Nov. 6th. Copies of the report of the Council can be obtained on application to the secretary at the College, personally or by post, and Fellows and Members can register their names as desirous of receiving the report every year. Copies of the agenda can be obtained on Nov. 13th. It is to be hoped that some motions of interest to the Members generally will be on the agenda paper for this meeting, so that a large number of Fellows and Members may be present and thus demonstrate that they take an active interest in the affairs of their College.

THE READ DISPENSARY FOR WOMEN AND CHILDREN, BRISTOL.—An appeal is being made for funds to erect a new building in connexion with this dispensary. A sum of £2000 is required for the purpose and £1000 have been already raised. The committee is obliged to erect a new structure as the premises which it formerly rented have been pulled down for city improvements. The dispensary was founded in 1874 to enable women to consult a medical practitioner of their own sex and during 1904 the patients numbered 2410. The new building will contain a hall in which it is proposed to hold classes for lectures on the subject of hygiene and the treatment of children.

THE TERCENTENARY OF SIR THOMAS BROWNE.

STATUE UNVEILED BY LORD AVEBURY AT NORWICH.

THE tercentenary of the birthday of Sir Thomas Browne of Norwich, physician and philosopher, who was born on Oct. 19th, 1605, and died Oct. 19th, 1682, was celebrated in Norwich on Oct. 19th last and was the occasion of a remarkable display of enthusiasm and interest in that ancient city. It has long been felt by the citizens of Norwich that it was a reproach to their city that it contained nothing of the nature of an adequate monument to one of their great men which might testify sufficiently to the pride felt by the inhabitants of Norwich in the most famous of its citizens who lived in their city some 40 years and was celebrated as a philosopher, as a man of science, and as an author and who was buried in the church of St. Peter Mancroft in that city. It was thought that the tablet on the front of some buildings in Orford-place, Norwich, stating that the house which Sir Thomas Browne occupied used to stand near the spot where the tablet is placed, did not signify enough the pride which the city felt in regard to his memory, and although it was true that in the chancel of St. Peter Mancroft there was a tablet erected in his memory and that there was an ornamented casket at the Norfolk and Norwich Hospital containing the skull of Sir Thomas Browne it was nevertheless a very generally received opinion that some more worthy monument should be raised to his memory. Several years ago a representative

The statue of Sir Thomas Browne.

committee was appointed by the citizens of Norwich to undertake the preliminaries necessary for such a work and subsequently an appropriate appeal was issued by the committee asking for funds for the purpose. The result of the appeal revealed the fact that the fame of Sir Thomas Browne had spread all the world over, for from every part of the globe subscriptions poured in and an executive committee was constituted in order to carry the work to a successful issue. During the South African war the question of the memorial faded somewhat into the background but the movement later gathered force and the committee was finally able to commission Mr. Henry Pegram, A.R.A., to proceed with the work of producing a statue of Sir Thomas Browne to be placed as a memorial to his life and work in the city of Norwich.

The particular site which has been chosen for the monument is on a piece of rising ground in what is known as the Haymarket and consists of a clear space of ample proportions, the statue being situated under the shadow almost of the church of St. Peter Mancroft and close to the place where the house stood in which Sir Thomas Browne lived for many years in Norwich. It would be possible to write much on the artistic merit of this latest addition to the city of Norwich.

The ceremony of unveiling the statue took place shortly after midday. The memorial executive committee formally received the representatives of the Royal College of Physicians of London, who were the President, Sir Richard Douglas Powell; the treasurer, Sir Dyce Duckworth; and the senior censor, Dr. J. F. Payne. The Royal College of Surgeons of England was represented by one of the Vice-Presidents, Mr. Edmund Owen, and by Professor Howard Marsh of Cambridge, who is a member of the Council of the College. The University of Oxford was represented by Professor W. Osler, Regius Professor, and the University of Cambridge by Professor T. Clifford Allbutt, Regius Professor. Dr. F. W. Burton-Fanning represented the Norwich Medico-Chirurgical Society. The mayor, the sheriff, the deputy-mayor, and the town clerk appeared next before the monument and then, under the direction of the secretary of the executive committee, Mr. F. R. Eaton, the ceremony of unveiling the statue commenced with the reading of a collect by the Rev. F. J. Meyrick, the vicar of St. Peter Mancroft.

The SECRETARY read the following letter from Yale University:—

New Haven, Connecticut, 6th October, 1905.

F. R. Eaton, Esq., Hon. Secretary, Sir Thomas Browne Memorial.

MY DEAR SIR.—With great regret I am obliged to decline the invitation with which your committee has honoured me. In doing so, however, I am not wholly deprived of participation in the memorial observances, for on the day which finds you assembled in Norwich it is proposed in this city, under the auspices of the Yale University, to celebrate the tercentenary of the birth of your renowned citizen, and I have been honoured by the appointment to deliver an address on that occasion.

With congratulations upon the completion of your meritorious labours, I remain, yours sincerely,

F. BACON.

The SECRETARY also announced that the following reply had been sent:—

Browne's old city rejoices with an illustrious university in perpetuating the life and work of a great and good man.

After a statement had been read concerning the history of the movement for the erection of the monument, Sir PETER EADE, president of the memorial executive committee, invited Lord Avebury to unveil the statue.

Lord AVEBURY then advancing in front of the statue said: I appreciate very highly the honour you have conferred on me in inviting me to unveil the statue that you have so wisely erected to Sir Thomas Browne and which he so richly deserved. He has long been a great honour to Norwich; it is fitting that Norwich should do honour to him. The late Lord Chief Justice Coleridge has told us that he found Norwich juries the most intelligent he ever came across and Mr. Havelock Ellis in an interesting article on the distribution of British ability, founded on the Dictionary of National Biography, tells us that East Anglia is far the most important centre of British genius—that Norfolk "stands clearly at the head of our counties in the production of eminent men," and I may add, of famous women. I could quote a long list of saints, divines, statesmen, generals, admirals, philosophers, artists, and authors. Among the latter Sir Thomas Browne holds a unique place, not only in English libraries but in the literature of the world. Lowell regarded him as "our most imaginative mind since Shakespeare." It is to be hoped that the sight of his statue may induce many to read his books. They will not be disappointed. His monument in your cathedral describes him as "vir prudentissimus, integerrimus, doctissimus." We can well believe the two first commendations; indeed, we can judge for ourselves how well the third was deserved, and can the more readily believe that the others were true. Sir Thomas Browne was one of the most distinguished citizens of this noble and ancient city. That he was prudent I think is shown by the fact that he lived so prosperously through the disturbed times of Charles I., of Cromwell, and of Charles II.; that he was excellent is shown by the universal respect which was felt for him in this city of Norwich, and still more by the love and affection felt for him in his own family; and that he was most learned I have no doubt, having read his books, and I hope that you will take the advice which I offer you to read his books also. He was an honour to your city and Norwich to-day does honour to itself in erecting this monument to one of its most distinguished citizens.

Lord Avebury, approaching close to the statue, pulled a silken cord attached to a white sheet enveloping the monument and immediately the coverings fell away from

the bronze figure and the statue stood unveiled, upon which loud cheers were raised by the great crowd gathered in the Haymarket.

A vote of thanks to Lord Avebury for attending the ceremony was moved by Sir SAMUEL HOARE, M.P., and this was seconded by Professor CLIFFORD ALLBUTT who said that they had that day to celebrate the memory of a man great in Norwich but no less great far beyond the realms even of Great Britain. He was great as a man of science, great as a naturalist, and was greater still as a man of letters; it was therefore with singular fitness that the memorial executive committee had been able to obtain that day the presidency of Lord Avebury who was a great man of science and who was also a great naturalist and who, distinguished as he was in those branches, was also no less renowned as a man of letters.

Speaking on behalf of the memorial executive committee Mr. G. WHITE, M.P., also supported the motion for the vote of thanks to Lord Avebury.

The vote of thanks was passed amid loud cheers and Lord AVEBURY, in acknowledging the compliment, assured them that his gratitude was a great deal warmer than the day on which they were met together.

Sir PETER EADE then turned towards the Mayor of Norwich and, in asking him to accept the statue on behalf of the city of Norwich, said: The statue being now unveiled, and open to the world, and placed as it is upon an ideal site, it is my pleasant duty to ask the Mayor of Norwich, whom we are most pleased to see here this morning, to accept it from the large and eminent body of subscribers to it on behalf of this ancient city over which he so well reigns. We hope the statue will be, what it is intended to be, a monument to departed learning and genius and moral greatness—a monument to a man of whom even his contemporaries were wont to speak in superlatives, as Lord Avebury has pointed out, and on whose monument in the adjoining church we find the words, "Per Orbem Notissimus," and who was described by his daughter, Mrs. Littleton, as of "universal learning and sublime virtue." It has been said that Sir Thomas Browne was not a Norwich citizen. But he lived here nearly half a century, his life-work was chiefly done here, he died and was buried here, and we are proud to be sure that he will be known for all time as Sir Thomas Browne of Norwich.

Sir CHARLES GILMAN also spoke in support of the request made by Sir Peter Eade, and the MAYOR OF NORWICH in a graceful speech accepted the statue on behalf of the city of Norwich. This was a signal for the chiming of the bells of St. Peter Mancroft and the company separated.

The vicar of St. Peter Mancroft, the Rev. F. J. Meyrick, afterwards conducted a distinguished group of visitors over his church.

LUNCHEON IN THE BLACKFRIARS HALL.

In the afternoon the members of the memorial executive committee gave a luncheon party in the Blackfriars Hall to the representatives of the various universities and colleges and other bodies and societies. The chair was taken by Sir PETER EADE who had seated on his right hand the Mayor of Norwich and on his left Lord Avebury. After the usual loyal toasts had been duly honoured the health of Lord Avebury was proposed by the High Sheriff of Norfolk, Mr. H. G. BARCLAY.

Lord AVEBURY, in reply, delivered an interesting speech on Sir Thomas Browne. He said: East Anglia is justly proud of Sir Thomas Browne and it is pleasant to see how widely his tercentenary has been celebrated in the press. In addition to Mr. Southwell's volume on Browne's Natural History of Norfolk, there is Mr. Gosse's volume in the English Men of Letters Series. Mr. Gosse is no indiscriminate admirer. He protests against the long and pedantic words which Sir Thomas Browne was so fond of coining and which I confess that I myself regret, but we must remember that some of his works were left as more or less disjointed notes. They had not the benefit of his revision and perhaps he would have omitted some of the longest words. Moreover, Mr. Gosse himself compares his style to light "shot with all the colours of the spectrum flashed out against a firmament of romantic gloom." Some may perhaps consider that his writings have not, according to our present taste, the literary perfection which delights us in the prose of Ruskin or Matthew Arnold, or, to quote living authors, of Mr. Morley or Mr. Frederic Harrison, Sir G. Trevelyan or Professor Bryce; but all must admit that they have a peculiar charm of their own, a stateliness, quaintness, and raciness of expression which is unique. They offer us a succession of pleasant surprises and sparkle with exquisite wild flowers of speech, not without a rich supply of facts and picturesque stores of wise sayings. He charmed Dr. Johnson who wrote his life, and Pater, certainly a first-rate authority, compares him to Jean Paul Richter among Germans and Montaigne among Frenchmen. Browne, however, as Johnson well says, has been intensely rather than extensively admired. Perhaps his most celebrated work was the "Religio Medici." It was copied in various forms over and over again—Religio Philosophi, Religio Laici, Religio Jurisconsulti, Religio Clerici, Religio Militis, and so on. It is written in a reverent but broad and inquiring spirit, for as he says in his quaint language "every man's own reason is his best Œdipus." He has by some been, most incorrectly, accused of incredulity and even of atheism, and yet assures us that "he is of the reformed religion; of the same belief as our Saviour taught, the Apostles disseminated, the Father authorised, and the martyrs confirmed," though I am not sure that if he had lived in Italy or Spain instead of East Anglia he might not himself have been called upon to confirm his faith by martyrdom. No doubt, however, he was a sincere member of the Church of England, which, in accordance with his habit of quoting authority, he assures us with evident satisfaction, was "approved by Grotius." Still he felt that "those who do confine the Church of God either to particular nations, churches, or families, have made it far narrower than our Saviour ever meant it to be;" and elsewhere he observes that "persecution is a bad way to plant religion," and that "We being all Christians, and not divided by such detested impieties as might profane our prayers or the place wherein we make them, or that a resolved conscience may not adore his Creator anywhere, especially in places devoted to his service." His religion was one of cheerfulness and he always sees the happy rather than the gloomy side of life. It was a Christian mood, a state of mind, an atmosphere of reverence and gratitude rather than a creed. He felt deeply the mystery of existence. To thoughtful observers he says, "The whole world is a phylactery; and everything we see an item of the wondrous power and goodness of God." He dwells more on the hope of heaven than on the horrors of hell. "I have so fixed my contemplation on heaven that I have almost forgot the idea of hell ..... I can hardly think there was ever anyone scared into heaven." Indeed, "were the happiness of the next world as clearly apprehended as the felicities of this, it were a martyrdom to live." Not that he undervalued life. In fact, he tells us that his life was "a miracle of 30 years, which to relate were not history but a piece of poetry and would sound like a fable." Dr. Johnson in his life of Browne criticises this as an instance of "self-love cooperating with a vigorous imagination." He admits, indeed, that the statement in a sense is true of all lives, and it was in this, I think, that Browne intended it. He meant to point out the value of life, not specially of his own life. There is no doubt that BROWNE believed in witches. This has been described as a blot on his life and led to the one act of his life for which he has been severely blamed. In 1664 two wretched women were charged with witchcraft. Sir Thomas Browne took no part in the prosecution but he was, unfortunately, in court and the judge called upon him to express his opinion. He could hardly refuse to do so and the unfortunate women were convicted. Mr. Gosse says that their blood was on his head. But is this fair? Belief in witchcraft was general at the time. Sir Thomas Browne was in many respects in advance of his time but unfortunately in this respect he shared the belief which had for ages been the general belief of mankind. We may regret it, we may feel surprised that sensible men could have believed such nonsense, but we can hardly blame him for sharing a superstition which was general at the time, and held by Luther and Calvin and even by the great and good Wesley. It was an unfortunate error of judgment but ought not to be taken as a stain upon his character. Another of his most celebrated works was on vulgar and common errors. Many of them would seem childish to us but they were widely prevalent at the time and some are, perhaps, even now not quite extinct. As a naturalist myself I should naturally like to say something of Sir Thomas Browne's notes and letters on the natural history of Norfolk and as an entomologist I heartily subscribe to his dictum about ants and bees that "in these narrow

engines there is more curiouse mathematics; and the civility of these little citizens more neatly sets forth the wisdom of their Maker." Geniuses are not always good to live with but Browne was no solemn and melancholy autocrat. On the contrary, all we know of his domestic life is charming. It is not then by any means merely for his style, however striking, or for his language, however quaint and rich, but for the moral excellence and noble principles contained in them that Browne's writings will always hold a high place not only in English literature but in the libraries of the world, that we in East Anglia are justly proud of him, and that Norwich honours herself in erecting a monument to one of her most distinguished citizens.

The toast of "The Memory of Sir Thomas Browne" was then proposed by Professor JAMES STUART who confined himself to considering his subject from the point of view of Sir Thomas Browne as a citizen of Norwich.

The honourable office of responding to this toast was intrusted to Sir RICHARD DOUGLAS POWELL, President of the Royal College of Physicians of London, who said: I am deeply honoured in having to respond to this toast, and as representing the Royal College of Physicians I must express the gratitude of the College to the memorial committee for giving this opportunity of doing honour to the memory of our Fellow in the city where he lived his life of scholar, physician, and Christian gentleman. Sir Thomas Browne was a distinguished Englishman, a man of noble thoughts, which he expressed in the rich and stately language of his day. Although not born in this city of Norwich yet he found his sphere of work and greatest influence here, and it was in connexion with some ancient Roman relics found here that he wrote what is perhaps the most subtle and charming of his essays. It has not escaped notice how averse Sir Thomas Browne himself was to tombstone and other memorials. "At my death," he says, "I mean to take a total adieu of the world, not caring for a monument, history, or epitaph; not so much as the bare memory of my name to be found anywhere but in the universal register of God." And this shrinking from posthumous fame, which is manifested in passages not only in his earlier but also in his later writings, has been respected for eight generations since his death. It may well be said that now it is somewhat late to be unveiling a memorial to him. But I think that such belated monuments find their justification rather in the survival than in the perpetuation of their subject's memory. There are many reputations, perhaps brilliant at the moment, yet so urgent in their need of perpetuation and so quickly evanescent that they are fittingly memorialised in waxen effigies, which, quickly moulded, may endure for a few weeks, months, or years, and will then boil down to be reconstructed in the likeness of the next recipient of fame. Other statues urgently constructed but of more enduring material may long and inconveniently outlast the oblivion of the subject whose fame they would fain preserve. It is not so with Thomas Browne. We to-day celebrate that Sir Thomas Browne has lived three centuries in our memory and our continued appreciation of his works; and his statue is here erected for the honour of the town and to remind its citizens of his great example. The Psalmist in a striking but sombre passage says: "When the breath goeth out of a man he returns to his dust, and all his thoughts perish." I know not how Sir Thomas Browne would have interpreted this text. But surely such thoughts as come to us through the great men of all ages are disembodied, immortal spirits, divine inspirations, which rule the world, and, finding lodgment and expression in the winged words of men, quicken the conceptions of literature, science, and art for successive generations. They are surely not within the meaning of the Psalmist as of the earth and as perishing with earthly things. It cannot be said that Sir Thomas Browne—excellent physician as he was—contributed anything to the science of medicine. Steeped in the learning of the centuries his writings must be classics for all time. But his period was behind the seventeenth century, as that of his great contemporary Harvey was in front of it. His works, and those of Harvey, furnish us with instructive illustrations of the overlapping of the old mystical medicine and the new learning by way of experiment. The two great personalities seem to stand upon the watershed of Time, looking different ways. Let us treasure the memory and example of the one; the other lives with us.

Mr. EDMUND OWEN, Vice-President of the Royal College of Surgeons of England, said that Sir Thomas Browne did not allow his devotion to cramp his thought or place a check upon a fearless investigation into the meaning of things. More people like Sir Thomas Browne were wanted at the present day.

The Dean of NORWICH dwelt on the great value Sir Thomas Browne placed upon the proper use of time and observed in regard to the religion of Sir Thomas Browne that a religion from which mystery was excluded forfeited every claim to supernatural origin, it never could rise above humanity, and it never could elevate humanity that invented it.

Professor W. OSLER, who also replied to the toast, pointed out that there were three lessons to be learned from the life of Sir Thomas Browne. The first was the importance of an ideal education, the second was the example he gave of a member of the medical profession who mingled the successful waters of science with the oil of faith, and the third was that it was possible to lead the perfect life in a very simple way.

MEMORIAL SERVICE.

A memorial service was held in the evening at St. Peter Mancroft Church and the sermon was preached by the Master of Pembroke College, Oxford, Bishop MITCHINSON, who remarked on the present resting-place of the skull of Sir Thomas Browne and declared that he could hardly conceive it possible that the citizens of Norwich should have inflicted upon one of their most distinguished fellow citizens such an indignity as to have removed his skull from where his body lay buried within the church.

THE FEEDING OF SCHOOL CHILDREN IN SWITZERLAND.

(FROM A CORRESPONDENT.)

EVER since the days of Pestalozzi the care of destitute children has occupied a prominent position in the minds of the Swiss people. Proud as they are that the world deems their countryman the founder of the modern *Volksschule*, they are more impressed by the philanthropic work at Neuhof and Stans than by the pedagogic triumphs of Burgdorf and Yverdon. The care bestowed on poor children by school managers has gained in value from the complexity of local conditions and the independence of local government. It may be safely asserted that, in some commune or other, every feasible plan of relief has been tried. Though the results cannot be elaborated into a system sufficient material has been accumulated to form a basis for any body, public or private, which desires to attack the subject.

For many years relief depended on individual effort. Well-to-do families inquired at school for the children of their poorer neighbours and invited them to share the midday meal. The presence of these regular guests was not resented by the younger members of the family with whom they grew up in companionship. In some parishes church collections were made for the supply of food and clothing. A village Christmas tree was often prepared and tastefully decked with presents. In the town of Basle a sum of 25,000 francs was collected in 1856 which now forms a fund for the relief of poor children. In many communes small foundations have accumulated from surplus fees, settlement charges, and offertories, and the proceeds of these are now applied to the same purpose.

The Federal Constitution of 1874 made attendance at the *Volksschule* obligatory and gratuitous. Before this date arrangements for the relief of hungry school children had been made in Unterwalden, the canton in which Pestalozzi earned the name of Vater der Waisen. But the cantons endeavoured to make the supply of books and material free before they paid attention to the feeding of the children. Now that this difficulty has been overcome more effort is being made to insure that the child is physically able to profit by instruction. This is due in part to the spread of socialism, but socialism is not the only important motive. The age at which a child begins to earn money has been gradually increasing. So long as school attendance is compulsory, factory labour is forbidden and in many cases a child is not permitted to work for casual wages. Assistance may be rendered at home in house work and at the parent's trade. The child is therefore a worker but not a wage-earner. In many districts

there is a large development of cottage industries: embroidery, watchmaking, carving, and spinning, and this often results in severe physical labour for children of school age. The restrictions imposed on child labour by the State are heartily supported, if they were not initiated, by the labour societies whose efforts are directed against the employment of the children of poor Italian emigrants. The ages of these children are difficult to determine and the parents seek to evade the law whenever the chance of making a pittance presents itself. Small bursaries are occasionally awarded to children below the age of compulsory attendance but usually on the condition that the child remains at school for a year beyond the usual term.

In some cantons attendance at continuation classes is compulsory for two or more years after the day-school career is over. This implies a continuation of school discipline and a restriction of wages but an increased potentiality of earning power. It adds in a slight degree to the complexity of the problem which became very acute in 1901 and 1902. The extension of school attendance has been forced on the cantons by circumstances. In many families the children grow up conscious that some of them must find employment abroad. The young emigrant must be well equipped in the struggle for existence which is rendered severer for him by differences of nationality. But the success which has attended the home schools has had a reflex action. The Swiss, even at home, are more and more joining the ranks of skilled labour. The unskilled labourer is often a foreigner, Austrian or Italian, so that corresponding to the output of native skilled workmen there is an intake of foreign, and almost pauper, labour. This foreign element is attracted to the large towns which owe their rise to their natural positions as centres of continental traffic or to the successful application of electricity to the industries. The growth of these towns is modifying the conditions of Swiss life. 30 years ago it could be said, when comparing Switzerland and England, that in the former rich people were not so rich, nor poor people so poor as in the latter. But the range of wealth and income has increased and the increase is likely to continue as a consequence of the utilisation of abundant water power and the tunnelling of the Alps.

The attention given to the relief of poor children has gained in amount from the fact that funds are available for meeting expenses. For a number of years the manufacture of spirits has been a Government monopoly and the profits have been distributed among the cantons which must spend 10 per cent. of the amount received in combating the evil effects of alcohol. A sum of about £22,000 is thus annually available for grants in aid of hospitals, cookery and housekeeping classes, temperance societies, rescue homes, and other institutions. In 1903 the Federal Government decided to subsidise the *Volksschule* which is administered directly by the cantons. The subsidy amounts to 60 centimes per head of the population and is paid to the canton. Each canton is free to form its own system of distribution but the money must be spent on certain objects (Section 2 of the Act of 1903). Among these is "assistance in the feeding and clothing of poor children." In 1904 the sum of £83,366 was paid by the Federation. The cantons spent £40,473 on salaries, paid £10,531 to the communes for distribution, spent £19,036 on buildings, £2098 on feeding and clothing, and £1756 on weak-minded children. Some of these payments represent urgent capital outlay and it might seem that more money would in time be available for eleemosynary purposes. But less money was devoted to relief in 1904 than in 1903, and it would appear, if a conclusion can be drawn, that the grant will vary with the need. These Federal grants represent but a fraction of the amount spent. Cantons and communes make grants of considerable magnitude, while private societies contribute in no stinted measure. In schools even an envelope collection is sometimes made among the pupils. In the winter of 1900–01 in Canton Bern 14,693 poor children were fed and clothed. The cost was £4129, towards which the alcohol monopoly yielded £348, the communes contributed £1804, and private subscriptions amounted to £1846. In 1903 the half canton of Obwalden (population 15,260) possessed funds of the value of £5767, the interest on which, with an annual grant of £80 from the savings bank, went in relief. In 1896 the 150th anniversary of the birth of Pestalozzi was made an occasion for collecting money for the poor children's fund and in the town of Zürich a sum of over £5000 was subscribed.

In 1888 the education committee of Canton Bern endeavoured to insert a clause in the new Education Bill to the effect that the cantonal council should participate in the expenses of relief incurred by communes. The clause did not pass but in 1895 the code which was drawn up in accordance with the Act of 1894 stated that school boards must see that children are properly clothed and fed. In 1899 the new Education Act passed in Canton Zürich contained a section authorising the cantonal exchequer to contribute towards expenses incurred by the communes on account of needy or weakly children. These enactments are probably only the forerunners of a number which will soon be issued by the cantonal governments. At present the tendency is to make grants in aid to local societies which accept financial responsibility, with the result that relief is sporadic rather than systematic. In 1891 the education committee of Neuchâtel appealed to the public to form a society, La Société Cantonale Neuchâteloise des Soupes Scolaires, with the object of collecting money and arranging for the distribution of food to poor children. The annual subscription is one franc; life membership costs 25 francs. A committee of management is elected by the subscribers and to it the cantonal subventions are paid. The committee makes grants, up to 50 per cent. of total expenses, to local committees. By this method of distribution the local resident is required to show his confidence in the local committee by subscribing to its fund. No local body is intrusted with other people's money to squander. The whole cost is not borne by the subscription list. There are many cases where parents are willing and able to pay. If both parents work in a factory it is easier for them to pay for a child's dinner than to provide it at home. In many cases the child may have a long walk to school and the school dinner saves him a midday tramp which is dangerous in winter. Payment for dinner is frequently made by ticket so that children are unaware that parents are assisted by the managing committee. Clothes are not distributed as such, openly, as they are seldom paid for. In some schools cloth is given out in the sewing classes for the girls to make themselves garments. In Aargau an annual grant is made to head mistresses for the purpose of private help. In Lucerne the master, with the approval of the chairman of the school board, may expend 10 francs on clothing for a child in urgent cases. This sum is charged to the guardians of the poor. Boots are the articles in most demand; in Canton Bern slippers and socks are provided at school so that children do not sit all day with wet feet. Food and clothing are not the only items of expenditure. A large amount of relief is given in day homes and at holiday colonies. The former, *Kinderhorte* or *classes gardiennes*, are for children who live far from school or whose parents are absent from home during the day. The latter, which were started about 1876 in Zürich by Pastor Bion, have been organised in most cantons. They are attended by a considerable number of paying children, for parents often wish their children to make practical acquaintance with democracy. Their value as a means of moral control is so highly esteemed that even country communes are forming holiday colonies so that their children may be under the teachers' control. In a few cases the home is open all the year and batches of weakly children are sent regularly for a month to the country. A school is usually attached to the home, but schoolwork is only an occupation on rainy days. It is found that children gain greatly in physique after a stay in the country, while their absence from regular lessons entails no ultimate disadvantage. About 38 per cent. of the cost of the holiday colonies is defrayed by parents. The remainder is met by subscriptions and grants in aid.

Among applicants for relief the weak-minded children have of late received most attention. A parent is held voluntarily to have undertaken a responsibility when a child is brought into the world and help is not afforded to children of normal capacity until those whom nature has handicapped have been protected. A census taken in 1900 showed that of children between the ages of six and 14 years 1·58 per cent. were weak-minded and among them 1·35 per cent. were capable of instruction. The total number of children in need of food or clothing, or both, is estimated at 10 per cent. of the population. The cost of feeding them for 100 days at 20 centimes per day is calculated at £40,000. The primary aim of relief is to improve attendance and attention and this is undoubtedly attained. In hill districts the provision of a partial change of clothing at school has a good effect on health. It is in

these districts that help is most needed, for the commune is too poor to afford much relief. The children are fed at home on milk-coffee, coffee beans cooked in skim milk, and potatoes. The home is frequently badly heated so that the children benefit by remaining in the warm school during the dinner hour. But in the country, *Bettelstolz* (the independence of poverty) is most noticeable. Many families are too proud to send their children to the school soup kitchen. They would accept friendly charity but never alms. In the towns matters are different; the family loses its corporate independence and the individual becomes selfish. Parents begin to consider relief obligatory and the committee of management is forced to be inquisitorial. Some reports refer to a class of *pauvres intéressés* who are glad to be relieved of responsibility which they might with diligence fulfil. These people are importunate when relief is obtainable and dissatisfied when it ceases. One writer remarks that when the list of children for the holiday colonies is completed the trouble begins. Abuse, glib excuse, and invective are incessant. One woman accuses the Church and another the teacher of favouritism; a third makes horrible suggestions about a girl who has been admitted. It is all part of the day's work. One must not expect an improved parent until one has reared an improved child. Yet efforts to improve the parent are not wanting. Cookery and housekeeping classes are frequent. When used by girls alone they do good work, but if mothers and daughters attend the teacher's time is too often taken up with cutting out garments or other household work and the lesson goes untaught. The class is then simply a convenience for relieving housewives of part of their work. The child shows more improvement than the parent. Gratitude is seldom expected from the latter, but the child, learning at last something of the joy of existence, shows more attention and is more amenable to discipline. This is evident in the day homes but more so in the holiday colonies where a permanent improvement in manners and helpfulness can be brought about during the month that the child is away from parental control. The success of any scheme of relief depends largely on the teacher's coöperation. In the country there is little difficulty in securing it, but in the town the teacher frequently declines to undertake an office which must be inquisitorial. His legal liability ceases when he has reported cases of want to the guardians of the poor. But if he stopped at this the schemes of relief would never be carried out. Their success is due to the public spirit of the *volksschullehrer*.

The town of Zürich, the largest in the confederation, passed through a distressful winter in 1901–02. In this period 133,684 meals were supplied on an average to 1787 participants at a cost of £912, of which £110 were provided by subscriptions. The children applied to the teacher for a schedule of enrolment which passed through the hands of the headmaster to the committee of management whose decision on the application was final. The condition of poverty was demanded in all cases of relief. Malnutrition of the child, absence of parents from home at midday, want of work or illness in the family, and the large size of a family were admitted as supporting reasons. Paying diners were received and meals were served when necessary during the Christmas holidays. The average meal of soup and bread furnished 101 grammes of starch, 31 grammes of proteid, and nine grammes of fat. In the latter constituents it was deemed deficient, so a supplementary meal of cheese or sausage was given once a week. The cost of cooking varied from 2·4 to 3·5 centimes per meal. Payment was usually by ticket; the charge varied from 10 to 20 centimes. In some cases the soup was sold at five centimes a litre; in others the school janitor provided a meal at 20 centimes per head. There was no uniformity of treatment in the different wards nor in schools of the same ward. Local circumstances and the supply of local assistance determined in each case the form of relief. In addition to the improvement in health of the individual child there is an improvement in the standard of civil discipline. The democracy in Switzerland shows no cruel kindness to the wilfully lazy and negligent. There are many parents in the towns who consider themselves entitled to three meals a day and a roof to cover them as a reward for continuing their existence. As a check on these undesirables the State first demands some result of private enterprise. The people become their own inquisitors. To lie to an inspector is no breach of honour, to lie to one's neighbour is dangerous. The restriction of a free meal to dinner throws on the parent the obligation of preparing breakfast, and if with the help of a free dinner for his children and a grant of clothing for some of them he cannot send them to school clean and fairly well fed he is liable to find himself accused of, and sometimes punished for, parental neglect.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT PARIS.

(FROM OUR SPECIAL CORRESPONDENTS.)

THE SECTIONS.

FRIDAY, OCT. 6TH.

FIRST SECTION.

A DISCUSSION on Serum-therapy had been announced to take place in the subsection devoted to Therapeutics at 2 o'clock in the afternoon. Shortly after that hour the room was densely crowded. The Chairman, however, did not take his seat until 20 minutes to three and then announced that the Treatment of Lupus would occupy the attention of the meeting. Loud cries at once arose asking why the subject had been changed. The President of the Section, Professor BOUCHARD, then appeared and a wordy warfare ensued which lasted for some minutes. The President, very properly acting on what was the obvious wish of the assembly, retreated from the room, asking those members who wished to discuss the treatment of lupus to follow him. Very few of those present accepted the invitation, the majority remaining to listen to the remarks of those who had experience in serum-therapy. Whatever may have been the real intentions of those responsible for the conduct of this section they only have themselves to blame if a wrong interpretation was placed on their method of procedure. The impression left in the minds of a number of those in the room was that an attempt had been made to prevent discussion on a serum which had yielded encouraging results in the hands of those who had tried it.

Dr. ALEXANDER MARMOREK (Paris) then read a paper on *Antituberculous Serum and its Effects in the Treatment of Tuberculosis*.

He said that since the publication of his communication nearly two years ago on antituberculous serum this remedy had been administered to a large number of patients and 28 articles had appeared in various journals stating the results which had been obtained. Most of the observers reported favourable results. According to the stage of the disease, the technique employed, and the duration of the treatment success was more or less complete. The serum had been used in all stages of the disease. The majority of the cases submitted to its action consisted of patients in whom tuberculosis was far advanced and in whom many other therapeutical measures had been employed in vain. The selection of cases was according to Dr. Marmorek's wishes and showed that they had submitted the serum to very severe tests. In pulmonary tuberculosis, the affection from which most of the cases were suffering, the action of the remedy was manifest and, as would be seen, "specific." The majority of the observations which had been made related to the amelioration of the principal symptoms—fever, dyspnœa, expectoration, the numbers in which bacilli were present, and the general condition of the patient. The results obtained by the use of the serum in conjunction with high altitude had proved exceptionally interesting, for it was found effectual in reducing temperature when the usual methods had proved of no avail. In those cases in which the rise of temperature was shown to have been caused by the action of the tubercle bacillus alone good results always followed. If, however, a mixed infection was present the combined use of the antituberculous and antistreptococcic serums had been found satisfactory by some observers. Dyspnœa was much relieved by the antituberculous serum. With regard to the amount of expectoration, all the observers reported that after a temporary increase during the first few days of treatment the quantity gradually decreased. Proportionally with this decrease the bacilli became less in number and in some cases entirely disappeared. It was always advisable, however, that the serum should be administered

as long as tubercle bacilli were found in the sputum, for until they could no longer be detected a relapse was always possible. The bacilli might appear in the sputum after all the other signs and symptoms had vanished. A case published in THE LANCET would seem to suggest that the bacilli in the lungs might take on a saprophytic existence. The organisms, however, although for a time avirulent, might recover their virulence and produce a relapse. In order to judge the effect of the serum on the general condition of the patient no change had been made in the ordinary *régime*. In only a few instances was there no amelioration. In the vast majority there were improvement in the nutrition, increase in appetite, and gain in weight. With regard to changes in the pulmonary lesions as the direct result of the action of the serum reparative processes were naturally slow. The acute forms of tuberculosis responded better than the more chronic varieties. Râles became less bubbling in character and their number gradually decreased until they disappeared altogether. The impairment of resonance became less marked; abnormal auscultatory phenomena were less plainly heard and only slight friction sounds remained, indicating adhesions formed by the usual reparative tissues. In some cases the observers were able to state that the disease was "cured" but sufficient time had not elapsed to pronounce the arrest permanent. The cases in which definite relief was obtained amounted to about three-quarters of the number in which the serum was used. In the remainder the treatment seemed to have little or no effect. In some of those patients, however, in whom no improvement was manifested the remedy was only administered when the patient was *in extremis*. In no case did the symptoms become manifestly worse owing to the injection of the serum and the general conclusion arrived at was that it could be used without any danger to the patient. Turning now to the reports of those observers who had tried the remedy in surgical cases the results were still more encouraging than those which ensued from its use in pulmonary tuberculosis. After the injection of the serum the lesions retrogressed, healing and cicatrisation of ulcers and fistulæ followed, and the relief of pain was most marked. Suppuration ceased, the movements of the affected joints were regained, the enlarged glands diminished in size, and one case was recorded in which multiple fæcal fistulæ, which had formed in consequence of tuberculosis of the vertebræ, completely healed. This favourable action of the serum had been attained in all varieties of surgical tuberculosis—for instance, in tuberculous arthritis, in tuberculous affections of the eye, in enlargement of the lumbar glands, and in tuberculous conditions of the joints and bones. In studying all the recorded cases it was evident that difficulty had been experienced in establishing a definite technique. But by degrees clinical experience had established a method of procedure. It was the first time that a serum had been administered for a long period in a chronic disease. It was necessary to avoid the phenomenon of intolerance (recently investigated by Pirquet, Schick, and others). Thus, by an improved technique the increasing resistibility of the organism to a foreign albuminoid body (a phenomenon known under the name of "anaphylaxia") had been gradually eliminated. The plan had now been adopted of allowing an interval of several weeks between two series of subcutaneous injections. The organism was thus enabled to rid itself of an accumulation of anti-bodies which were the cause of complications. By these improvements in the technique it was now possible to avoid certain inconveniences which had occasionally been experienced as a result of the injections and so obtain all the benefits conferred by the treatment. More recently good results had been made by administering the serum by means of rectal injections. Its absorption was evidenced not only by its curative effects but also by the appearance of a characteristic erythema. The future would doubtless establish a definite formula by which the maximum result might be obtained by a minimum of reactions. But even now, by the methods hitherto employed, sufficient results had been obtained to enable the conclusion to be arrived at that the antituberculous serum had responded to the requirements of a specific remedy.

After Dr. Marmorek had finished his communication 12 members of the Congress of various nationalities gave their experience of the value of the antituberculous serum and all spoke favourably as to its effects. Amongst the speakers were the following.

Dr. T. STEPHANI (Montana) said that the serum had been extensively used in the sanatorium at Montana. Additional value had been given to the investigations by the fact that the remedy had only been employed when residence in a high altitude and other means had failed to give relief; in the majority of instances it had produced favourable results in very serious cases. The serum had been administered in doses varying from one cubic centimetre to 12 cubic centimetres. Sometimes the injections were given every second day, sometimes the plan adopted by the earlier observers was chosen to give ten injections in 22 days, the doses being gradually increased. Dr. Stephani had set himself the task of answering five questions with the following results:—1. Had complete cures resulted from the action of the serum or had definite relief been established, and if so, in what proportion? It was, of course, difficult to state in any one case whether or no a definite "cure" had been made, especially as the time for observation had been short. The difficulty was accentuated by the class of case in which the serum had been used (as described above); in several cases, however, definite relief had been experienced and two interesting cases of this nature were described. Summing up the number of grave cases which had been treated it was found that in 50 per cent. a marked improvement was manifested. 2. Did the action of the serum produce amelioration of the symptoms? A positive answer could be given to this question in three-fifths of the cases. 3. Was there evidence that the serum checked the course of rapidly advancing tuberculosis in which the prognosis appeared to be hopeless? In five out of seven cases of this nature the morbid process was distinctly checked. 4. Could the action of the serum aggravate the disease? The answer to this question was given in the negative. 5. In what forms and in what stages of tuberculosis does the serum yield most favourable results? The best results were obtained in tuberculous disease of the bones. In one case of tuberculous pleurisy the course taken by the disease was also most encouraging. In the cavity stage of pulmonary tuberculosis the results were not so satisfactory. Dr. Stephani was of opinion that the serum acted better when the lesions were of recent date than when they were more chronic. In conclusion, he said that he believed that in Marmorek's serum was to be found a remedial agent which was capable of arresting the course of a rapidly advancing tuberculosis; that under its influence certain symptoms, especially pain, were considerably relieved; and that it could be given without danger to the patient. To obtain the best results, however, it was necessary carefully to study the technique of its administration.

Dr. S. H. HABERSHON (London), as the delegate of his colleagues of the Brompton Hospital for Consumption and Diseases of the Chest, said that after communicating with Dr. Marmorek a small commission consisting of members of the staff had been appointed to investigate the antituberculous serum. A very stringent test was imposed—viz., that the cases to be treated by this method should be those of early pulmonary tuberculosis which had remained for at least three months in the hospital without definite improvement. It was obvious that such cases when first receiving the injections frequently presented an advanced state of the disease although on admission an incipient condition only existed. Even when the disease remained *in statu quo* the resisting power of the patient was necessarily low. In the rare cases found to fulfil these conditions it was not surprising that several deaths occurred, and in the remainder, although definite improvement was noted, the patients left the hospital with the disease not arrested and with tubercle bacilli still in the sputum. It was perhaps not to be expected that any case of progressive and somewhat advanced disease (especially if cavitation or considerable fibrosis were present) would altogether yield to any remediable agent introduced by subcutaneous injection. A less stringent test had subsequently to be adopted and early cases were selected which had been treated by ordinary methods for three or four weeks without improvement. In this group of cases Dr. Habershon was able to record a distinct amelioration in symptoms in some of the cases, occasionally soon after injection—improvement in appetite, gain in weight, reduction of febrile disturbance, and diminution in amount of sputum. Even in these cases no patient left the hospital with complete arrest of the pulmonary disease, though in several instances in which two or three lobes were affected the physical signs had disappeared in one lobe when the infiltration was in an incipient and early stage. The favourable results which had been recorded at this meeting in the

surgical cases, as well as the impressions already received by the use of the remedy, led Dr. Habershon to believe that the antituberculous serum should be still further investigated in a larger group of cases and in an earlier stage of the malady. In cases in which vital organs such as the lungs were affected a smaller dose of the serum had to be administered than in the surgical group. Some patients did not tolerate the remedy; this event occasionally occurred at the outset, but more often, after a number of injections had been given, a painful swelling with erythematous blush and rise of temperature made their appearance. In one or two these manifestations were accompanied with syncope and collapse, but these phenomena were rare and led to the belief that there was not as yet any definite standardisation of the serum. Dr. Habershon had to thank Dr. Marmorek for the facilities which he had afforded for the use of his serum and for the scientific spirit in which he invited the freest criticism and fullest investigation.

Dr. ERNEST LEVIN (Stockholm) recorded the results of his researches, experimental and clinical, with Marmorek's antituberculous serum. He had come to the conclusion that this serum did not contain sufficient antitoxin to entirely prevent the development of tuberculosis in the animal organism, but it did possess enough to neutralise a large quantity of the tuberculous toxin and so arrest for a long time the development of the pathogenic bacillus. His experience had also convinced him that it was possible to obtain direct curative effects by means of the serum in those cases in which the bacilli had not had time to become thoroughly ingrafted on the tissues of the body. In Scandinavia the practical value of the serum had been tested on a fairly large scale. 156 cases had been treated by 27 practitioners in sanatoriums, in hospitals, or in dispensaries. The method at first adopted was the one recommended by Dr. Marmorek—that is to say, by a series of six injections with an interval of 15 days. Later a different procedure had been put into practice—the serum was injected every second day for three weeks, then followed an interval of a month, and then another series of injections. The various observers had been requested to state their results on a uniform plan. Many of the patients suffering from tuberculosis were in an advanced stage of the disease. In the first group of cases, consisting of those patients who had received at least 17 injections, only seven were in the first stage of the disease, 30 were in the second, and 24 in the third. As a result of the treatment 41 cases showed a general improvement in strength, appetite increased in 23, and dyspnœa entirely disappeared in 25. The physical signs improved in 56 per cent. of the cases. The temperature became lower and the amount of expectoration decreased in more than half the cases; an increase in weight was recorded in two-thirds of the patients. The bacilli in the sputum disappeared or became less in number in 27 per cent. Two cases of tuberculous meningitis were treated without success. Several surgical cases which were treated with the serum showed considerable improvement, especially the more recent and acute cases. Tuberculous ulcers healed well and fistulæ of old date, which were discharging freely, rapidly closed. Dr. Levin concluded by saying that it was very difficult to judge of the value of a remedy when applied to such a widespread and varying condition as tuberculosis. In order to pronounce a just opinion it was necessary that a prolonged trial should be made on a large number of cases and in different forms and in various stages of the disease. The material at his command had been sufficient, he thought, as regarded number and variety, but the time to judge the effect of the treatment had been too short; a period of nine months had been too brief to decide whether or not a permanent improvement had been achieved. He had only ventured to record that considerable improvement had taken place in rather more than half of the cases which had been submitted to treatment and that this improvement had shown itself more rapidly and was apparently more active than that effected by other known methods of treatment. If this improvement persisted then he would not hesitate to state that Marmorek's antituberculous serum had opened a new path in the fight against tuberculosis and was directly curative.

During the afternoon Dr. BERANECK (Neuchâtel, Switzerland) read a paper on

A New Tuberculin.

He said that his tuberculin consisted of two constituents: 1. Extracellular toxin, which he termed T B (toxin bouillon), and was obtained from a bouillon of special composition and only contained the metabolic products of the tubercle bacillus. It caused a thermic reaction in tuberculous guinea-pigs, but its toxic reaction was very feeble. 2. Intracellular toxin, which he termed A T (acid-toxin), which was extracted from the protoplasm of Koch's bacillus by means of orthophosphoric acid. Precipitated from solution this acid-toxin gave the reactions of albuminoid substances, completely different from the nucleoproteids which up to the present had been obtained from bacillary bodies. Relatively, it was only slightly toxic. Each of the component parts of this tuberculin possessed a certain immunising power, but the maximum effect was produced (in the guinea-pig) by a mixture of T B and A T. *In vitro* the tuberculin possessed bactericidal properties. Dr. Beranech claimed for it a curative and a preventive action; in the guinea-pig the latter was more marked than the former.

SECOND SECTION.

A discussion took place on

Surgical Intervention in Tuberculosis of the Meninges and Encephalon.

Two reports were presented, the first being by Dr. H. DURET (Lille). He pointed out that the surgical treatment which could be adopted in tuberculosis of the meninges and encephalon differed in regard to the age of the patient, whether the patient was a child or an adult, and whether the disease was diffuse or localised. Surgical intervention in tuberculous meningitis (especially in children) received a fairly extensive trial between the years 1890 and 1900, but since then the operation had not been held so much in favour. The earlier idea was to relieve cerebral tension by lumbar puncture, but Dr. Duret maintained that there were other factors at work due to the excess of cerebro-spinal fluid. The fluid had been shown to contain bacilli and to possess toxic properties. He maintained that it was an agent capable of aiding the propagation and diffusion of the bacilli and their toxins in all parts of the central nervous system. He therefore thought that benefit might be obtained by its withdrawal by lumbar or ventricular puncture. Recent investigations tended to show that some forms of tuberculous meningitis were curable and that there was some reason to hope for favourable results by early operative measures. Dr. Duret, in considering localised tuberculous meningitis, said that frequently symptoms presented themselves which rendered it possible to identify the site of the lesion and therefore surgical intervention might be advisable, but up to the present few cases of this kind had been reported. The best results in the operative treatment of meningo-cephalic tuberculosis had been obtained in cases of solitary tubercle. Dr. Duret gave the results of his operations. The total number was 34, in which the tumour was situated in the cerebrum 23 times and in the cerebellum 11 times. A successful result was obtained in 23 cases and rapid death ensued in 11 cases. Of the successful cases, with the exception of three, the cerebrum was the site of the tumour and in nearly every instance it was situated in the motor area. In one case the mass was in the temporal lobe and in another it was in the parietal lobe. Nearly all the operations on the cerebellum were followed by rapid death (eight times out of 11). In the three cases that survived there was recurrence of the disease in two, three, and nine months respectively. The unfavourable results in the cerebellar cases were to be attributed to the late stage at which the operation was undertaken, to the depth at which the disease was situated, and to the difficulties in the technique of the operation. The conclusions to be arrived at from the results of such cases were that operation was justifiable whenever general or advanced tuberculosis could be excluded. In children operation must not be decided upon without due deliberation as the lesions were frequently multiple. In adults solitary tubercle was more generally found.

The second report was presented by Dr. ROBERTO ALESSANDRI (Rome). He first considered the question of surgical intervention in tuberculous meningitis and came to the conclusion that in the majority of cases operation was not to be advised, although in some forms of localised meningitis it might be attempted. Referring to the condition of solitary tubercle he maintained that lesions were nearly always to be found in some other organs or tissues of the body, and he likewise laid stress on the possibility of spontaneous cure. He believed that the diagnosis was always difficult and the

true nature of the lesion by no means easy to detect. From his experience he was of opinion that operations on the cerebrum for solitary tubercle were fairly successful.

THIRD SECTION.

Dr. CAVÉ and Dr. SAVOIRE (Paris) presented a report on

The Rôle of Maternal and Scholastic Mutual Aid Associations in the Fight against Tuberculosis.

They commenced by pointing out that tuberculosis was a disease of communities and could only be combated by the coöperation of individuals and various societies, public and private. Amongst these they thought that the mutual aid associations should form the axis, around which other fighting units might congregate. The importance of educating the masses in the measures to be adopted to prevent infection was then insisted upon and every improvement possible should be made in the housing of the working classes. This "mutualised" fight against tuberculosis would only be efficient if the advantages of the mutual aid associations were extended to all, or, at any rate, the greater part, of the population, and if each individual was watched from birth to death. For this purpose an active propaganda must be instituted and legal interference should forcibly extend the powers of such associations and especially in reference to the care of children. A central fund should be established to aid insurance against tuberculosis. District associations should be founded having special departments dealing with the prevention and treatment of the disease. Associations formed of adults should take an active part in aiding the prevention of tuberculosis in infancy. In this work they should be joined by kindred associations which might be known as children's, family, and scholastic aid associations. These various branches of mutual aid associations should have special duties—namely, in encouraging the nursing of infants by their mothers under medical supervision; by removing healthy children from tuberculous surroundings (family protection); by watching, isolating, and treating children already attacked by tuberculosis (school protection); by instituting open-air establishments for school children; by organising, with the aid of municipalities, open-air schools; and in placing tuberculous children and those strongly predisposed to tuberculosis in special hospitals, in children's sanatoriums, and in seaside hospitals.

SATURDAY, OCT. 7th.

FIRST SECTION.

Numerous papers were read dealing with the therapeutics of tuberculosis, more especially with regard to the form of diet which should be adopted.

Dr. J. J. GALBRAITH (Edinburgh) presented a communication on

The Effect of Raw Meat on Nitrogen Metabolism in Tuberculous and Normal Individuals.

He said that in his investigations the diet in each case was the same throughout and for analysis the usual laboratory methods were employed. His results were as follows: (*a*) Effect on metabolism: 1. When raw meat was taken the absorption was diminished by from 1 to 2 per cent. owing to the appearance of indigestible collagen in the fæces. 2. There was a marked increase in nitrogen retention in spite of the diminution in absorption. 3. On reverting to cooked meat (the collagen of which is converted into gelatin) the nitrogen of the fæces diminished and the percentage of absorption was thereby raised by from 1 to 3 per cent. above the percentage observed in the first cooked meat period owing to improvement in intestinal chemistry. 4. Superalimentation (which was tried in one case) with raw meat and beef juice did not diminish the percentage absorption. The substitution of a similar quantity of cooked proteid produced immediate sickness. (*b*) Effect on the blood: 1. A great increase in hæmoglobin (falling on resuming the cooked diet). 2. A rise in the total leucocytes of from 3000 to 10,000 per cubic millimetre, fasting. 3. An exaggeration of the digestive leucocytosis, the usual increase being doubled or trebled. The rise in the total leucocytes was not observed in normal individuals; otherwise the results were identical. The reaction might be induced to a much slighter extent by increasing the proportion of cooked proteid in the diet. The specific action of raw meat was exerted on the mechanism of nitrogen retention, reducing the combination of the absorbed nitrogen by promoting the vitalisation of circulating proteid, by means of the intervention of a linking body probably secreted by the functionally active cells of the digestive leucocytosis.

Dr. T. W. DEWAR (Dunblane) submitted a paper on

Intravenous Injections of Iodoform in Pulmonary Tuberculosis.

He remarked that owing to the improvement in modern apparatus it was possible to perform several hundred intravenous injections on one patient if such a procedure were necessary. He referred to his former publications on this subject and said that there were now patients who had remained well after treatment had been suspended for periods of between two and three years. Up to the present he had not had a fatal case, and even in the hopeless cases, as a result of the injections, the disease had been retarded and the symptoms relieved. He anticipated that in early cases he might yet be in a position to claim that iodoform given by this method was almost a specific. He offered several suggestions as to how the drug had such remarkable power. 1. It might act as its own molecule in a germicidal character. 2. If not acting directly as a germicide, as understood in antiseptics, it might excite the micro- and macro-phages of Metchnikoff, aiding their phagocytosis. If weak germicidally, it was probably also comparatively harmless to living cells. It might even be beneficial to, and absorbable by, them, thereby conferring an increased vitality and fighting power. 3. The iodoform might undergo decomposition either by oxidation or reduction, resulting in the production of nascent formaldehyde (CH_2O) and nascent free iodine. The peculiarity of iodine in the chemistry of organic iodo-substitution bodies was well known, for when treated with hydriodic acid free iodine was liberated and hydrogen took the place of iodine, thus regenerating the normal hydrogen body. Thus free iodine was capable of producing new organic iodo-substitution compounds with other bodies from which iodine could again be liberated; thus the iodine was alternately combined and free and might be used over and over again. This free iodine might act germicidally at the seat of disease or it might form some organic iodo-substitution compounds, themselves possessed of germicidal qualities, in this instance again augmenting the resisting power of Metchnikoff's macro- and micro-phages in the phagocytosis. Again, if by either of these processes free iodine was liberated the action of iodine in weak alkaline solutions might take place. It formed iodides and iodates which, being acidulated, would again liberate free iodine.

Dr. J. BERGONIÉ (Bordeaux) presented a communication on

The Favourable Action of X Rays on Tuberculous Glands.

Dr. Bergonié had found that the action of the Roentgen rays on the enlarged (tuberculous) glands in young adults yielded excellent results. A similar success was obtained when the tracheo-bronchial glands were affected in infants. He was of opinion that, considering the unsatisfactory results which had been experienced from the use of other remedies, radiotherapy should be more extensively tried in such cases.

Dr. D. J. A. CHOWRY-MUTHU (Wells) read a paper on

The Value of Static Electricity in the Treatment of Pulmonary Tuberculosis.

From his clinical experience Dr. Chowry-Muthu believed that static electrical treatment was of benefit to patients suffering from pulmonary tuberculosis in three ways: (1) by acting as a general tonic, bracing up the nervous system, stimulating the functions of the body, and promoting general nutrition; (2) by increasing the force of deep respiration, quickening circulation, and increasing the body metabolism; and (3) by causing hyperæmia in the substance of the lung and by promoting the absorption of inflammatory products. Dr. Chowry-Muthu considered that this was the most important factor in the beneficial action of static electricity.

Dr. STUART A. TIDEY (Montreux) read a communication on

Compression of the Lung in the Treatment of Pulmonary Tuberculosis.

He first called attention to the peculiar mechanical conditions of the organs of respiration, the lung being held in a state of constant tension by thoracic aspiration. As a result of this the natural processes of repair experienced great and often unsurmountable difficulties in their effort to effect complete cicatrisation in the case of any lesions destroying part of the lung tissue. Evidence in support of the salutary effects of compression of the diseased lung was forthcoming in

certain clinical conditions—viz., in pregnancy, pleurisy, and accidental pneumothorax. Attention was then drawn to the circumstance that when tuberculous disease affected organs contained in incompressible cavities it was most resistant to treatment, whereas when affecting easily compressible parts, such as the peritoneum, the process of healing was more readily affected. From these and other considerations Dr. Tidey concluded that the obstacles opposed by the anatomical relations of the lung to cicatricial contraction were frequently the cause of the persistence of pulmonary disease. Hence two conditions were essential to the successful treatment of pulmonary tuberculosis: (1) compression of the lung in order to facilitate cicatrisation; and (2) diminution of the thoracic cavity in order to restore a state of mechanical integrity to the respiratory organs. Complete compression of the lung had been effected by the introduction of a harmless gas (nitrogen) into the pleural cavity. Partial compression could be effected by the reduction of the thoracic cavity, either by the resection of certain ribs or by systematically strapping the chest wall. He had practised the latter plan in a number of cases with excellent results and he had found it chiefly of use in young patients in whom the chest walls had not become too rigid to admit of considerable constriction. In conclusion, Dr. Tidey said that while compression of the lung made no direct attack upon tuberculous infection it favoured cicatrisation of diseased parts and restored the respiratory organs to a state of mechanical integrity.

Dr. R. W. PHILIP (Edinburgh) read a paper on

Feeding with Raw Meat in Tuberculosis.

We shall publish this paper in full in a future issue of THE LANCET.

SECOND SECTION.

A discussion took place on

Tuberculosis and Traumatism.

Two reports were presented. The first was by Dr. VILLEMIN (Paris). He considered the subject under four headings. 1. Traumatism might be the means of directly introducing the pathogenic organism into the tissues of the body. 2. A definite local tuberculosis might exist; if this focus were injured a dissemination of the virus into distant parts of the body might be determined. 3. A latent tuberculosis might exist. Such a condition could not be diagnosed by ordinary methods. Some traumatism occurred and the existence of the disease was at once manifested. Dr. Villemin considered that this was the most common relationship between traumatism and tuberculosis. He admitted, however, that misinterpretation of events was possible. The wound might itself be the site of the disease, the bacilli having been introduced by the substance which caused the injury. 4. There might be tuberculous disease in some organs of the body which had been already recognised by the usual physical signs. An injury might increase the activity of the tuberculous process and cause it to extend. Dr. Villemin drew attention to the importance of these considerations in regard to the laws that determined the relations between employés and employed.

The second report was by Professor VON FRIEDLÄNDER. He maintained that the theory of post-traumatic tuberculosis was purely empirical and he did not consider that its scientific basis had yet been established either by clinical or experimental experience. In numerous forms of post-traumatic tuberculosis a mixed infection appeared to play a predisposing rôle. He believed that latent tuberculosis was far more frequent in bones and joints than had hitherto been recognised. Further investigation was necessary before conclusive opinions could be arrived at.

THIRD SECTION.

A discussion took place on

Seaside Sanatoriums for Children.

Two reports were presented. The first was by Dr. ARMAINGAUD (Bordeaux). He pointed out that there were at present on the coast of France 15 sanatoriums for the care of delicate, strumous, or rachitic children, the object of such sanatoriums being the prevention of tuberculosis. He gave statistics of the condition of 60,000 children who had been in these homes since their inauguration in 1887. The proportions of children in various conditions was as follows: (1) delicate children, in which anæmia was the principal symptom, 60 per cent.; (2) children suffering from enlarged glands, 74 per cent.; (3) tuberculosis of bones, 52 per cent.; (4) spinal caries, 32 per cent.; (5) various strumous manifestations (skin, nose, eyes, ears), 61 per cent.; and (6) rickets, 72 per cent. A "cure" had been effected in 59 per cent. of these 60,000 cases and a marked improvement in 25 per cent. The benefit obtained was permanent in the majority of the cases. Even in those children who suffered a relapse the ultimate condition was not so bad as when admitted to the sanatorium. Dr. Armaingaud stated that in the large French towns that were near a seaside sanatorium and from which numerous children were sent to these institutions the tuberculosis death-rate was decreasing. Two only of the sanatoriums admitted cases of pulmonary tuberculosis and in Dr. Armaingaud's opinion the policy of refusing such patients was a good one. He considered that children who were the subjects of this form of tuberculosis should be treated in establishments set apart for the purpose.

The second report was by Professor A. D'ESPINE (Geneva). He first gave a summary of seaside sanatoriums which had been established in other countries. He considered that residence at the seaside was most beneficial in the strumous conditions of infancy. It was also valuable in children who exhibited a predisposition to tuberculosis as evidenced by lymphatic anæmia and enlarged glands in the neck and elsewhere. In pulmonary tuberculosis the results had not been so striking but nevertheless under certain conditions much improvement was manifested. Early cases naturally exhibited the best progress. Children suffering from pulmonary tuberculosis should be treated in sep rate establishments and not be allowed to mix with other children suffering from strumous conditions, rickets, &c. Good results had also been obtained in cases of tuberculous peritonitis by residence by the sea. Professor d'Espine urged that in order to obtain trustworthy information on the results obtained in these institutions all reports should be published on a uniform plan. Open-air methods should be adopted as far as possible and he considered sea-bathing a very important adjunct to exposure to sea air. Even in pulmonary tuberculosis sea baths, given under careful supervision, had proved beneficial. He likewise believed that sun baths were of advantage and seemed to aid the healing of wounds and tuberculous fistulæ.

THE PATHOLOGICAL MUSEUM.

SOME REMARKS ON THE EXHIBITION

BY W. J. R. SIMPSON, M.D. ABERD., F.R.C.P. LOND.

THE pathological museum at the International Congress on Tuberculosis was a most instructive exhibit. France, Germany, and the United States sent specimens of the highest value; England sent nothing of special interest.

Comparative Pathology.

No one studying the specimens could fail to be struck with the widespread distribution of tubercle in nature and with the great utility of comparative pathology as distinguished from human pathology in this disease. There was to be seen the effect of tuberculosis on dogs, cats, pigs, cows, goats, hens, and parrots. There were to be seen also the ravages which the disease produced on monkeys and laboratory animals. The impression produced was that no animal was insusceptible to tuberculosis, either experimentally or by natural infection. The catholicity of the disease in nature was not more remarkable than its extent in the different organs of the body, whether human or lower animal. No part of the body appeared to be free from the possible invasion and destructive effect of the tubercle bacillus.

Avian Tubercle.

The best specimens of avian tuberculosis were those shown by Dr. Lydia Rabinowitsch and by Dr. Max Koch from the Pathological Institute of the University of Berlin. Most of them represented cases of spontaneous tuberculosis in birds but a few had been produced experimentally. Spontaneous tuberculosis in birds appears to be much more common than is generally supposed. Dr. Lydia Rabinowitsch found in 500 post-mortem examinations on birds no fewer than 130 affected with tuberculosis, or 26 per cent. The lesions were not confined to the intestinal canal but in many of the specimens the glands of the neck, the pharynx, the lungs, the liver, and the spleen were affected. In a pheasant the ovary and oviduct were

tuberculous. A specimen of peculiar interest was that of a tuberculous hen, one of the eggs of which was tuberculous. This tuberculous egg of an infected hen is suggestive of the possibility that the setting aside without qualification the rôle of heredity in tuberculosis may with further research need some modification in special cases. In this connexion there were also preparations from a chicken which had been hatched from an egg inoculated with avian tuberculosis. The specimen showed extensive tuberculosis of the lungs, with a few tubercles in the liver and small nodules on the serous coat of the intestines and mesentery.

Among the specimens of experimentally produced tuberculosis were the lungs of a hawk which had been infected by feeding with avian tuberculosis. The lungs and sternal glands had become infected but the mesentery was not infected. In such cases it is not infrequently a moot point as to the channel by which the infection reaches the lungs, whether directly by the respiratory passages or by the tonsils or by the intestines. From a practical point of view and from one of prevention it little matters what is the channel of infection once that infection has reached the mouth in the form of infected food or drink. The danger lies in partaking of such food or drink. Birds are evidently not only subject to avian tuberculosis but they may also be infected with the human variety. Tuberculous lesions of a local character were exhibited in parrots which had been fed or inoculated with human tuberculosis. The histological picture was the same as in avian tuberculosis but the cultures recovered retained the characteristics of the human tubercle bacillus. The infecting of young chickens with human tuberculosis came very prominently under my observation some years ago. A friend who used to rear chickens often fed the youngest with food which he had softened in his mouth. He was attacked with pulmonary tuberculosis and continued the practice of feeding the chickens directly from his mouth, with the result that he was unable to rear healthy chickens as before, numbers of them dying from tuberculosis. The circumstance impressed me very strongly at the time as to the susceptibility of fowls to human tuberculosis and as to the poultry and farmyards being possible centres of infection.

Bovine and Human Tubercle.

The pathological specimens from the German Imperial Health Office in Berlin were particularly instructive. They go far to settle the vexed question as to the danger or otherwise of bovine tuberculosis to human beings. They establish that at least in some cases tubercle bacilli of the bovine type are found in children not only in the mesenteric glands but also in the lungs. They also demonstrate that such bacilli when isolated and cultivated are capable of causing, when introduced into bovines by inoculation, feeding, or inhalation, the same effects as the tubercle bacilli derived directly from a bovine origin. In some experiments a local infection of the glands is produced, while in others there is more or less a general infection. There were nine specimens illustrating the results of the experiments and though in point of number they were few compared with those illustrating the effects of bovine tuberculosis in bovines yet in importance, both in regard to what they proved and the deductions to be drawn from them, they were of the first order. In the same rank was the French exhibit bearing on the relationship of bovine to human tuberculosis and *vice versâ*.

There were preparations by Professor Calmette and Professor Gervais from the Pasteur Institute of Lille which demonstrate that feeding with tubercle—whether from a bovine, human, or avian source—may produce tuberculosis in the kid. There were the lungs of a kid, three months old, that had been infected by the administration through an œsophageal tube of food infected with bovine tuberculosis. Four meals of this kind had sufficed. A second specimen showed the lungs of a kid, three months old, infected through the intestinal tract by the ingestion of the milk of the mother having tuberculous lesions of the mamma of bovine origin. A third showed the intestines of a kid, three months old, infected by the milk of the mother having tuberculous lesions of the mamma of human origin. A fourth showed the intestines of a kid, 45 days old, infected by the milk of the mother having tuberculous lesions of the mamma of human origin. A fifth showed the intestines of a kid, 45 days old, infected by the milk of the mother having tuberculous lesions of the mamma of human origin. Finally, a sixth showed the intestines of a kid, 45 days old, infected by the milk of the mother having tuberculous lesions of the mamma of avian origin. Then came the magnificent collection from the National Veterinary College at Alfort. It was a perfect storehouse of information. Professor Nocard's experiments on which doubt had been cast resumed their rightful place as the pioneer work in demonstrating the relationship of bovine and human tuberculosis. It was with additional interest that his specimens were examined showing the effect produced on the cow by the injection of tubercle bacilli of human origin. Then there were the specimens prepared by Professor Petit and Dr. Heudet on the same lines with other animals. The tuberculosis of the colon and the miliary tuberculosis of the cæcum and colon shown in the dog caused by feeding with tubercle bacilli of human origin may be mentioned. They suggest an avenue by which tuberculosis is disseminated which unless borne in upon one by the examination of such specimens is likely to be overlooked. The specimens by no means represented only experimentally produced tuberculosis; the majority of them were cases of natural infection.

Protection against Tuberculosis.

I am not going to refer here to Professor von Behring's announcement at the Congress. There were no specimens from Professor von Behring in the museum and I am confining my remarks to this section of the Congress. For work on the protection of bovines against tuberculosis the American exhibit was the most interesting. The results of the experimental work carried out in the laboratory of the State Live Stock Sanitary Board of Pennsylvania on the immunisation of calves and heifers are very striking. The specimens show that heifers and calves vaccinated with human tuberculosis are protected from bovine tuberculosis, while those not vaccinated and exposed to the same infection are attacked with the disease. These experiments emphasise the intimate relationship between bovine and human tuberculosis from a different standpoint than that established by the experiments already mentioned. The method of producing this immunity is not of such importance as the result which gives hopes of a vaccine being discovered which will protect against tuberculosis in man and the lower animals. A more convenient method will probably have to be discovered, but in the meantime nothing is in greater contrast than the healthy condition of the organs of the animals subjected to vaccination against tubercle and then tested with virulent bovine bacilli and the tuberculous state of the organs of the control animals. Dr. Pearson of Philadelphia at present injects intravenously with mild living tubercle bacilli of human origin. The bacilli have to be of a mild race, otherwise tuberculosis may be set up. The bacilli are cultivated in glycerinated broth. The film which grows at the surface is dried between blotting paper and five milligrammes are weighed and used as a first dose. Four injections are given at intervals of six weeks, each being increased in amount. The calves are then tested with intratracheal inoculations with virulent bovine bacilli and withstand the test. The specimens show that immunisation is possible. The goal, then, is not an imaginary one. Some one more fortunate than the rest will discover a vaccine to protect susceptible families against tuberculosis.

There can be no doubt that the pathological exhibition was a great feature of the Congress and that a study of the specimens well repaid the time spent.

ALIEN IMMIGRATION.

(FROM A CORRESPONDENT.)

THE Home Secretary has recently appointed a committee to consider what rules ought to be made to give effect to the provisions of the Aliens Act and to recommend what may be necessary for bringing this Act into operation at the various ports of the United Kingdom. It may therefore be not inopportune to describe some of the arrangements made by the American Bureau of Immigration which I was able to study this summer both in the United States and in Italy. Of all Governments concerned with immigration that of the United States has by far the best organised system, partly because it has to deal with at least half the world's emigrants.

From the year 1776 to 1846 the annual arrivals in the United States were very limited in number and until 1881 there were never half a million in any one year; then came a great influx of Germans and other immigrants varying until 1903 and last year when the tide of immigrants rose above 800,000. It therefore became necessary to adopt some stringent measures for determining whether these unwieldy numbers were for the good of the country and were likely to become useful and law-abiding citizens. I may here mention that in spite of all care and the fact that several hundreds of aliens have been returned to the countries whence they came because they were paupers, and although several thousand others were originally refused admission to the United States, there are now there about 30,000 alien paupers, including the insane, in public institutions, besides another 5000 in the charitable institutions under private control. To these numbers must be added 10,000 alien criminals in various prisons, making a total of 45,000 who have to be supported. New York alone is burdened with nearly 6000 insane aliens, mostly recent arrivals. The aliens reaching the United States come from more than 30 different countries but considerably more than half of the whole number are furnished by Italy, Austria-Hungary, and Russia. It is interesting to note that the emigrants from the British Isles last year numbered 87,000.

America has so far placed no limit on the number of aliens who may annually invade her shores, provided they are not Chinese. Her efforts are solely directed to excluding or expelling certain classes of undesirables. By the last report of the Commissioner-General of Immigration a total of 17,994 were excluded at the seaports for the following causes: idiots, 16; insane, 33; paupers or likely to become so, 4798; diseased persons, 1560; convicts, 35; prostitutes and procurers, 12; assisted aliens, 38; contract labourers, 11,501; and one anarchist. Everyone now visiting the United States with any intention of remaining there, whether possessed of a first-class ticket or not, has to sign a declaration to say that he is not a polygamist and that he has more than £10 in his pocket and has to answer searching questions as to whether he has ever been crippled, imprisoned, or supported by the State. The aliens rejected because they were afflicted with a "dangerous or loathsome contagious disease" showed a slight diminution from the corresponding figures for the previous year, but they still indicate on the part of the steamships a disregard of the law. The method in vogue is to examine intending emigrants at the port of departure and because it is found that local practitioners are sometimes too amiable in allowing their compatriots to pass muster, the Government has sent officers of the United States Public Health and Marine Hospital Service to the ports where the greatest emigration business is done. At Naples I was allowed to be present at the examination of some 2000 men, women, and children whose eyelids were examined for trachoma, their heads were searched for favus, and if of good colour it was assumed that they were not victims of tubercle. In addition an eye was given to the younger women to make certain that they were not in a condition of advanced pregnancy. The examination was very rapidly carried out, especially by one of the Italian medical men, who for years has been engaged in this work and is said never to let a granular eyelid escape him. All doubtful cases are put aside for conference with a colleague which is often attended by the medical man of the steamer on which the emigrant wishes to travel. As a second line of defence the emigrants are examined on the steamer during the voyage by the ship's medical man and also by a special medical officer sent by the Italian Government and any diseased cases, especially those of ophthalmia, are refused permission to land on the ship's arrival. The first- and second-class passengers land at New York or Boston in the ordinary way but the steerage passengers are conveyed on the ship to the immigration landing station, where they are all carefully examined by special officers. If the port medical officer decides that an immigrant has a contagious eye disease not only is landing refused but the steamship company is obliged to take the poor wretch back to Europe and is, moreover, fined for every case. The company must also pay a heavy fine if any immigrant should escape on shore from the ship without a proper permit. Some of the steamers have become very scrupulous in avoiding fines, among the most respectable being the White Star and the Scandinavian-American lines, but other companies have actually had to pay in fines as much as a shilling a head for all their emigrants. During the year under consideration more than £6000 were paid in fines by the various steamship companies.

The question of these refused emigrants touches us nearly, for several English captains with whom I was able to discuss the question assured me that a great proportion of them are dumped down in England where no one takes the trouble to see what further becomes of them. The American physicians consider that we are very careless in not paying more attention to trachoma among aliens than we do. It appears that nearly 20,000 intending emigrants were rejected last year at the port of Naples alone because of trachoma and it is pointed out that the high standard of excellence for which the national schools (so-called public schools) of the United States are so celebrated is due to the high physical condition of the children and it is feared that if trachoma became general in the large cities of the United States no family which could afford to pay for tuition would continue to send its children to the schools for fear of contracting eye disease. Inspection for trachoma is now made at the port of London, but at Dover, Folkestone, and Newhaven there is no such inspection. The ophthalmic hospitals of London are overrun with aliens demanding treatment and a large number of these people have been refused a passage to America because of their eye disease. There is another disease, ankylostomiasis, to which the attention of the British public has been recently directed and it will not be forgotten that at a conference of miners held at Newcastle some earnest protests were made against the admission of Hungarian miners to British collieries.

I must not forget the last power of the United States Government to rid themselves of undesirables, for there is a special provision allowing the Government to arrest and deport certain aliens within the limit of three years after landing; the number returned last year was 779. More than half the total number of immigrants are Italians, Jews, Poles, Slavs, or Hungarians. The statistics last year include 410 "editors," 907 "physicians," and 23,580 tailors, most of whom were Jews. The contract labourers who are refused admission consist of two classes, those brought to do work for less wages than the market price and those who are brought on the "padrone system," which is a species of slavery. A typical instance of this latter class is to be found in many large cities in the boot-blacking establishments, where Greek boys act as unpaid apprentices to their compatriots.

Trachoma would seem to be not uncommon in Japan, for both at Yokohama and Nagasaki several hundred emigrants for America were rejected on that account. From time immemorial England has been a free asylum for the people of all countries without consideration of their mental or physical condition, but the new law requiring a passport, registration, and police surveillance will doubtless prevent many of the abuses that at present occur. The United States prohibits the landing of undesirable emigrants, even though they declare their intention of immediately proceeding to Canada, but I have so far not heard of any proposition whereby undesirables shall be prevented from coming to this country for the purpose of embarking for America.

INCREASE OF FEVER IN THE METROPOLIS.

AT a meeting of the Metropolitan Asylums Board held on Oct. 14th the hospitals committee submitted a report in which it drew the attention of the Board to the considerable increase in infectious disease which had taken place since the Board adjourned for the vacation in August last, the number at present under treatment being 1256 more than the total number at the same period last year. These fluctuating figures afforded further illustration of the difficulties under which the Board had to work in calculating the provision that ought to be made for infectious disease. During the last ten weeks the daily admissions had exceeded 100 12 times, the highest figure in one day during that period being 135. It was quite impossible to foretell what might be the daily needs of the immediate future or when the highest figure might be reached, or what it was likely to be, and the subject was receiving close and constant attention with a view to all the demands which might be made upon the Board's resources being promptly

met. The South-Eastern Hospital was unavailable at the present time as it was in course of reconstruction. That loss somewhat complicated the situation and the committee felt it would be a prudent step and would place the Board on a safer footing if possession could be obtained of the 100 beds which the two old pavilions there would afford. The committee had therefore made arrangements for those two buildings to be ready for patients in the course of the next few days and recommended accordingly.

Mr. J. T. HELBY, the chairman of the committee, in moving the adoption of the report, said that statistics showed that since 1887 until the present year the highest number of admissions of scarlet fever patients during the month of September in any one year was 1711, whereas the admissions during September last were 2103 or 392 more than on any occasion in the Board's existence. The admissions were still increasing at a very rapid rate and the total would exceed that of any year since 1887. By a daily redistribution of vacant beds the committee was able to admit all applicants for admission. That day they had 428 vacant beds for general use and in the case of a great emergency, which he trusted would not arise, 100 additional beds would be available by using the two permanent blocks at the South-Eastern Hospital. The action of the committee was approved and it was decided to inform the Local Government Board of the arrangements.

The fever returns for the fortnight ended Oct. 12th showed that the number remaining under treatment in the various hospitals of the Board was 4892, as compared with 4397 a fortnight previously, being an increase of 495. There were no cases of small-pox under treatment.

THE AUSTRALASIAN MEDICAL CONGRESS.

(FROM OUR OWN CORRESPONDENT.)

THE seventh session of the Australasian Medical Congress has just been held at Adelaide and has been most successful. The arrangements were perfect and the character of the work done was of a high order.

The Presidential Address.

The President, Professor E. C. STIRLING, C.M.G., F.R.S., gave an admirable address, excellent both as to matter and literary form. He wandered, as he said himself, from the Dan to Beersheba of medical and social science. His main endeavour was to illustrate "the vivifying influence of some principles of science which have so greatly contributed to the advance" of medicine. He endeavoured to show "that man must be considered only as a unit in the world of living things, closely inter-related by his diseases with his animal and vegetable surroundings, and that medical knowledge consequently stands not apart from, but part of, the great body of organised science; indeed, more and more is it borne in upon us that not only every science, but also every system of truth, is intimately connected with every other. From these facts it results that an ever-increasing number of diseases have virtually resolved themselves into problems of botany, zoology, or of physical chemistry. We see how wide has become the scope of preventive medicine and by a slight stretch of the imagination we may almost foresee a hygienic millennium in which all diseases shall be abolished, leaving only accidents and the inevitable incidents of old age." He indicated that many of the medical questions relative to disease had passed out of the domain of medicine and entered that of social and political science, in which, again, they were dependent upon individual, collective, and organised efforts scientifically directed and persistently carried out. Professor Stirling emphasised the necessity of exact anatomical knowledge, sketched briefly the development of medicine as a science from the time of the empirics, and dealt more minutely with the applications of bacteriology and the theories of immunity, referring at some length to the relations of the animal as well as the vegetable world to disease. Another branch of his subject was medical science in relation to the community, the physical deterioration of the race, the declining birth-rate and the considerable infantile mortality, alcoholic excess, dietary errors, and other causes of disease and ill health, which had become largely social questions and the solution of which, pointed out by the medical profession, lay in the collective and individual efforts of the people. It was remarkable that an age which had witnessed so great a growth of scientific precision in medical methods and conceptions should be also characterised by a revival of superstition and belief in occultism and quackery worthy of mediæval times—and especially the movement known as Christian Science. In a fine peroration Professor Stirling concluded that science had shown by its achievements that it may be trusted to continue to do its share in the world's work but that was not all. "It is well that we should realise, before it is too late, that a nation's pre-eminence depends not alone on the extent to which its collective intelligence is organised and coördinated along the many paths that lead to success but also on the high sense of duty and self-sacrifice of its citizens." The lessons of the great Manchurian drama "might be summed up in the singularly happy and comprehensive phrase which we who deal with the lives of men may well take to heart—'Nothing but the best will do.'"

Standards of Ethics and Work in Medicine.

The Address in Medicine was delivered by Dr. DANIEL COLQUHOUN of Dunedin, who dealt with Standards of Ethics and Work in Medicine. As a Section on Ethics had been instituted at this Congress Dr. Colquhoun trenched considerably on its domain. He referred at some length to the system of medical aid associations and lodges and its grave abuses. Such bodies, he said, struck at the very root ideas of the medical profession and the chief sufferers in the long run would be the public. The profession was of no use to anyone if inefficient and these systems tended to make their medical officers inefficient. After tracing the historical growth of various schools of medicine, Dr. Colquhoun elaborated a scheme for an ideal residential college for medical students in which they would be taught the "art of living" and in which a great deal of the management could be done by the students themselves formed into various committees. On his first entry each student would undergo a careful physical examination and monthly thereafter his record would be noted so that the earliest sign of any failure in health might be detected. "A student at a university at present is too much like an egg in an incubator—so much heat, so many days, and the chicken steps out ready to fight for himself in the world. The university might do something better for him, might make him feel more like a child who has an *alma mater* which educates him, cares for him, corrects him perhaps, but is proud of him as a son who will one day be proud of her." Dr. Colquhoun then dealt with medical education. He thought it advantageous that Australasian students should be educated at their own universities. He thought that Greek and Latin were not essential to medical students; there was a limit to the knowledge that could be acquired and scientific knowledge was essential; practical laboratory and clinical work was of the greatest importance. Books and lectures were equally important. Dr. Colquhoun had next a tilt at the growing practice of coining uncouth foreign words in medicine and the use of proper names. An effort should be made to purify medical language and to use simple English terms.

Abdominal Syphilis.

Mr. FRED BIRD, President of the Section of Surgery, chose Abdominal Syphilis as the subject of his address. It was certainly the most original of all the addresses and was practically a monograph on the subject. He narrated such a remarkable series of cases of what he regarded as syphilis of the abdominal parietes and organs that many of his audience were somewhat sceptical as to the correctness of the diagnosis, but there can be no doubt that he forcibly directed attention to cases that are much overlooked, and when the possibilities of such occurrences are borne in mind they will probably be more frequently recognised in future. Mr. Bird attributed considerable importance to the influence of trauma in determining the site of syphilitic lesions and had observed that gummata on the parietes occurred chiefly about the points where the clothing might irritate. Some were evanescent swellings very like sarcoma but clearing up under mercury and iodides. In the liver gummata were often mistaken for hydatids but caused more pain. A form of syphiloma was described causing great consolidation of the tissues both above and below the diaphragm and being clearly seen on an

x ray screen as a dense shadow. Syphilis in the gall-bladder caused thickening of the walls and the ducts felt like a lead pencil while jaundice was produced. In the stomach syphilis was very common, according to Mr. Bird's experiences producing ulceration, definite tumours, and stenosis of the pylorus, adhesions to other viscera, with a peculiar firm, juicy enlargement of the lymphatic glands. Syphilitic ulcers might become carcinomatous and sarcoma might also be engrafted on a syphilitic base. Syphilitic deposits in the small intestine caused a narrowing of the lumen but rarely ulcerated. The only part of the alimentary canal which Mr. Bird had not found to be affected with syphilis was the cæcum with its appendix. Behind the peritoneum massive syphilitic deposits were not rare. Of all these conditions, Mr. Bird cited illustrations from his own practice.

Puerperal Eclampsia.

In the Section of Gynæcology and Obstetrics the President, Dr. W. S. BYRNE of Brisbane, took the special subject of Puerperal Eclampsia with allusions to a few other gynæcological points in technique. Unfortunately, Dr. Byrne's address was given to the section and not, as were the others, to the whole Congress, and at a time when interesting discussions and papers were attracting members to other sections.

Cancer.

The President of the Section of Pathology, Professor D. A. WELSH of Sydney, gave an admirably clear address on Cancer, reviewing the work done since the last meeting of the Congress when cancer was fully discussed. He emphasised the importance of senescence of tissue as a factor in tumour growth and suggested that "the widely recognised influence of irritation and of injury is possibly operative only in so far as it accelerates senescence of the tissues." The principles of immunisation against bacterial infection were based upon a general biological law governing the ultimate reactions of living cells to alien albuminous molecules. A tumour was an invasion of the organism by a brood of independent and hostile cells and it seemed not unreasonable to hope that substances antagonistic to the cells of a new growth could be developed in the blood of an otherwise suitable alien animal, as in the process of immunisation, and the serum used to inhibit or to destroy further growths in the human species. But the treatment of cancer by any means other than removal by the knife was not yet practicable. Every doubtful tumour should be submitted to a microscopical examination. The patient should be given the benefit of the doubt and the suspicious mass should be removed. Prolonged irritation produced senescence of tissue and predisposed to neoplasia. In removal the knife should never be within an inch of the new growth.

Infantile Mortality.

In the Section of Public Health the Presidential address, by Dr. W. G. ARMSTRONG of Sydney, was entitled "Some Lessons from the Statistics of Infantile Mortality in Sydney." He showed that the total infantile mortality of England and Wales exceeded that of New South Wales by 44 per cent. and that of Sydney by 25 per cent. In former years the positions were reversed. There were only two conditions in which the English infantile death rates did not exceed those of New South Wales—namely, diarrhœal diseases and congenital defects. Diarrhœa was the most important, numerically, of the causes of infantile mortality in both countries and in Sydney showed an actually increasing mortality. Zymotic diseases other than diarrhœa constituted the next most important cause of infantile mortality, especially measles and whooping-cough. About one-half of the total deaths depended on improper feeding and ought to be controllable. From his own investigations Dr. Armstrong concluded that the mortality among infants under three months old fed otherwise than entirely on the breast was in Sydney 37 times as great as among those entirely breast-fed. Food was the vehicle of infection and the home was the most common place where the infection occurred. Two lines of procedure were open to prevent the mortality from these causes. One was the establishment of milk depôts and model dairies, such as those at Battersea in the county of London and at Rochester, New York, and the other was the method adopted in Sydney, where a daily list of all births was obtained from the registrars and within a few hours the home of each child in a poor neighbourhood was visited by a woman inspector from the municipal council who confidentially advised the mother as to the methods she ought to follow, leaving a copy of a brief plainly worded leaflet giving instructions for proper infant feeding. The general sanitary condition of the home was reported to headquarters, when any action that seemed indicated was taken by the health officer.

(To be continued.)

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 27th, 1827.

ROYAL ACADEMY OF MEDICINE.

Sitting of the 21st of August.

SPOTS OF BLOOD.

M. Orfila stated that since he had read to the meeting a paper on the means of recognising spots of blood on clothes, &c., it had been published, on M. Dulong's authority, that the globules of blood, which constitute these spots, may be discovered by the aid of a microscope, and even the form of the globules be distinguished, if the spots are formed of human blood, or of the blood of animals. M. Dulong said, that this mode of investigation had been successfully used, and that the great advantage was its being applicable to the examination of very small quantities. M. Orfila wished to be assured of the truth of these assertions, and had therefore made experiments on spots of human blood, and the blood of pigeons; these spots, some of which were old, others fresh, were placed on glass, and examined by means of a microscope, both in a dry and liquid state. The result was, that far from perceiving any difference in the blood, M. Orfila could not distinguish with certainty whether it was really blood or not.

We suppose it is unnecessary to apologise to our readers for presenting them occasionally with an *additional sheet*, for which they will perceive that neither last week, nor on the present occasion, have we made any extra charge. We must frankly state that it is rather an act of necessity than one of kindness, as materials are continually flowing to us from so many sources of information, that the ordinary limits of our Journal are altogether inadequate to their reception. Our table at this moment is absolutely covered with valuable communications, which we find it impossible to insert; and, independently of the articles from Foreign Journals, Reviews, Hospital Reports, Communications from private sources, the proceedings of Medical and other Societies, we have no less than one hundred and thirty Lectures belonging to the courses now publishing, which we must compress into the volumes of the present year: nevertheless the price will not exceed that of the volumes for the past year. We take this opportunity of intreating our Correspondents to be as *brief as possible* in their communications, and invariably to adopt as their motto "*multum in parvo*." We have this week received an article of not less than twenty sides of foolscap closely written; it was really unreasonable to expect that it could be inserted without mutilation.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8186 births and 4211 deaths were registered during the week ending Oct. 21st. The annual rate of mortality in these towns, which had been 14·0, 13·5, and 13·7 per 1000 in the three preceding weeks, rose again to 14·1 per 1000 last week. In London the death-rate was 14·8 per 1000, while it averaged 13·7 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 5·8 in Tottenham, 6·2 in Northampton, 7·4 in Hornsey, 7·5 in King's Norton, 8·1 in Devonport, 8·2 in Leyton, and 8·9 in Hanley; the highest rates were 17·7 in West Bromwich and in Manchester, 18·1 in Liverpool, 18·2 in Barrow-in-Furness, 19·3 in Birkenhead, 20·4 in Tynemouth, 21·8 in Sunderland, and 25·4 in Rochdale. The 4211 deaths in these towns last week included 343 which

were referred to the principal infectious diseases, against 588, 446, and 376 in the three preceding weeks; of these 343 deaths, 120 resulted from diarrhœa, 55 from measles, 51 from scarlet fever, 46 from diphtheria, 46 from whooping-cough, and 25 from "fever" (principally enteric), but not any from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Brighton, Walsall, Handsworth (Staffs), Coventry, York, South Shields, or Tynemouth; while the highest death-rates from the principal infectious diseases were recorded in East Ham, Hanley, Wolverhampton, Smethwick, Birkenhead, Wigan, Blackburn, Preston, Stockton-on-Tees, and Swansea. The greatest proportional mortality from measles occurred in Wolverhampton, Rhondda, and Swansea; from scarlet fever in Blackburn; from diphtheria in Birkenhead and Wigan; and from diarrhœa in Hanley, Wolverhampton, Smethwick, Birkenhead, Bolton, and Merthyr Tydfil. The mortality from whooping-cough and from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered either in London or in any of the 75 large provincial towns; and no case of small-pox was admitted into the Metropolitan Asylums Hospitals during the week. The number of scarlet fever patients remaining under treatment in these hospitals and in the London Fever Hospital on Saturday last, Oct. 21st, was 4153, against 3591, 3789, and 3954 at the end of the three preceding weeks; 522 new cases were admitted during the week, against 509, 527, and 511 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 155, 152, and 191 in the three preceding weeks, further rose to 248 last week but were three below the number in the corresponding period of last year. The causes of 50, or 1·2 per cent., of the deaths registered in these eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Salford, Leeds, Hull, Cardiff, and 46 other smaller towns; the largest proportions of uncertified deaths were registered in West Bromwich, Birmingham, Liverpool, Bootle, Warrington, Rochdale, Preston, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 14·5, 14·9, and 16·3 per 1000 in the three preceding weeks, was again 16·3 per 1000 during the week ending Oct. 21st, and was 2·2 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. Among these Scotch towns the death-rates ranged from 9·3 in Aberdeen and 11·5 in Leith to 18·4 in Glasgow and 22·9 in Perth. The 545 deaths in these towns included 29 which were referred to diarrhœa, 22 to measles, eight to whooping-cough, seven to scarlet fever, seven to diphtheria, and two to "fever." In all 75 deaths resulted from these principal infectious diseases last week, against 56, 53, and 55 in the three preceding weeks. These 75 deaths were equal to an annual rate of 2·2 per 1000, which was 1·1 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 36, 37, and 23 in the three preceding weeks, rose again last week to 29, of which 16 were registered in Glasgow, four in Edinburgh, two in Aberdeen, two in Leith, and two in Greenock. The deaths from measles, which had been seven, seven, and ten in the three preceding weeks, further increased to 22 last week and included 19 in Glasgow and two in Dundee. The fatal cases of whooping-cough, which had been four, four, and eight in the three preceding weeks, were again eight last week, and included four in Glasgow and two in Edinburgh. The deaths from scarlet fever, which had been two, two, and one in each of the three preceding weeks, rose again last week to seven, of which four occurred in Greenock and two in Glasgow. The fatal cases of diphtheria, which had been six, three, and eight in the three preceding weeks, declined again to seven last week and included four in Glasgow. The two deaths from "fever" were both registered in Glasgow, one of them being a case of typhus. The deaths referred to diseases of the respiratory organs in these towns, which had been 77, 65, and 108 in the three preceding weeks, further rose last week to 108, and were 13 above the number in the corresponding period of last year. The causes of 12, or more than 2 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·3, 19·8, and 18·3 per 1000 in the three preceding weeks, was again 18·3 per 1000 during the week ending Oct. 21st. During the past four weeks the death-rate has averaged 19·7 per 1000, the rates during the same period being 14·0 in London and 15·0 in Edinburgh. The 133 deaths of persons belonging to Dublin registered during the week under notice were equal to the number in the preceding week, and included seven which were referred to the principal infectious diseases, against 12, three, and five in the three preceding weeks; of these, four resulted from "fever," and one each from diphtheria, whooping-cough, and diarrhœa, but not any from small-pox, measles, or scarlet fever. These seven deaths were equal to an annual rate of 1·0 per 1000, the death-rates last week from the principal infectious diseases being 1·2 both in London and in Edinburgh. The deaths referred to different forms of "fever," which had been three, two, and one in the three preceding weeks, rose again last week to four. One fatal case of diarrhœa was recorded last week, against nine, one, and four in the three preceding weeks. The 133 deaths in Dublin last week included 21 of children under one year of age and 41 of persons aged 60 years and upwards; the deaths of infants were slightly fewer than the number in the preceding week, while those of elderly persons were in excess. Seven inquest cases and eight deaths from violence were registered; and 54, or more than two-fifths, of the deaths occurred in public institutions. The causes of five, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—James Mowat (dated May 16th, 1902); John Elphinstone Hood Phillips (dated May 15th, 1903); Murray Parry Jones (dated Nov. 12th, 1903); and Richard Weld Stanistreet and George Gibson (dated Nov. 10th, 1904).

The following appointments are notified:—Staff Surgeon R. T. Gilmour to the *President* for three months' hospital study at St. Mary's Hospital, Paddington. Surgeons: F. E. Bolton to the *Imogene;* G. E. Glynn to the *Sirius;* and W. E. Ormsby to the *Excellent*, for the *Grafton*.

ROYAL ARMY MEDICAL CORPS.

Colonel D. Bruce, C.B., F.R.S., Expert in Tropical Diseases on the Army Medical Service Advisory Board, has been appointed for special temporary duty in the West Indies.

Major T. W. Gibbard, Adjutant of the London Volunteer Companies, is appointed for duty in India. Captain W. H. S. Nickerson, V.C., is ordered to the West Coast of Africa for duty. Captain D. Lawson is appointed Assistant Registrar and Adjutant at the Royal Victoria Hospital, Netley.

Lieutenant-Colonel Grenville E. Moffet retires on retired pay (dated Oct. 21st, 1905).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain William Ritchie, 5th (Glasgow Highland) Volunteer Battalion, Highland Light Infantry, to be Surgeon-Captain (dated Oct. 21st, 1905).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Aldershot Command: No. 2 Aldershot Company: The promotion to the rank of Captain of Lieutenant (Honorary Lieutenant in the Army) J. C. Furness bears date June 18th, 1905.

VOLUNTEER CORPS.

Rifle: 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Supernumerary Surgeon-Lieutenant-Colonel F. H. Appleby (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Sherwood Foresters Volunteer Infantry Brigade) is absorbed into the Establishment (dated Oct. 25th, 1905). Surgeon-Lieutenant-Colonel F. H. Appleby is seconded whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Sherwood Foresters Volunteer Infantry Brigade (dated Oct. 25th, 1905).

DEATHS IN THE SERVICES.

Captain George Crofts Beamish, I.M.S., attached to the

87th Punjabis, at Jhansi on Sept. 24th. He joined the army in 1900 and became Captain in 1903. He had served with a native field hospital in China.

ARMY LIFE.

Mr. Arnold-Forster's speech at Croydon on Oct. 18th was couched in his habitual tone of confidence in regard to his new army scheme. About this and about the success or otherwise of the newly adopted short service system we are bound to hear more when Parliament meets. Meanwhile there is no denying that a great deal of perplexity and misgiving exists on all sides in regard to the state of the army and army affairs in general. From Mr. Arnold-Forster's point of view the regular army is improving day by day under his present policy which has, he states, remained just what it was when he first introduced it into Parliament. Under its operation the quality of the men enlisted would, he contends, be improved, the strength of the reserve would be increased, and the stores department would be greater than it had ever been. "The army is steadily and visibly improving," said Mr. Arnold-Forster, "and in three years' time it will be on a better footing as regards the number of men, the quality of the men, the armament of the artillery, the training and manning of the cavalry, the strength of the reserve, and the store equipment than it has been for many years. The reserve, too, will be stronger, the power of furnishing the Indian drafts will be greater, and the medical arrangements and the medical service will be better than they have ever been." All we can say is that if Mr. Arnold-Forster's forecast be practically realised not only the Army Medical Service but the whole nation will have cause for rejoicing. As regards the army, it has still to be shown, however, what will be the effect on recruiting of having by his scheme to provide in future for two armies, a home and foreign service army, and whether men will enlist for nine years when they can do so for two. Considering the age at which men seek to join the army it must not be forgotten that a smart uniform naturally proves a great attraction. But as regards the physique and quality of the recruits presenting themselves for enlistment and the large numbers rejected as medically unfit it has to be borne in mind that in the past the causes which have mainly impelled men to enlist have commonly been want of employment in civil life, poverty, and the pinch of hunger. That has been the experience of recruiting sergeants and it accounts for the number of rejections among a class of people so unhappily circumstanced, but we may all hope and believe that these are things which belong to the past.

ENTERIC FEVER AND THE ARMY.

We called attention last week in a brief annotation to a long and important communication by Surgeon-General Sir Thomas J. Gallwey, the Principal Medical Officer of His Majesty's Forces in India, published under the above heading in the *Times* of Oct. 17th. The subject is one which obviously cannot be succinctly discussed in the column devoted to "Services." Our reason for referring to it here is in order to combat an absurdly unfounded and unjust notion which seems to prevail—namely, that army medical officers are not, as a rule, thoroughly acquainted with the various scientific views and theories of the day in connexion with their application to the diseases with which they have to deal; whereas it is, or should be, quite the contrary. Their more exact knowledge and acquaintance with all the conditions under which the soldier-subjects of such diseases "live and move and have their being" give them advantages in studying the etiology and causes of disease and of altering such as are modifiable which do not ordinarily fall to the lot of their brethren in civil life. In these and other respects medical officers consider that Surgeon-General Sir Thomas Gallwey has done a good and useful service by his letter to the *Times*, speaking as he does from his personal knowledge and experience in Egypt, South Africa, and India. Although his communication may not add much to what is already known it serves to indicate at any rate that nothing likely to be practically useful has failed to be considered and as far as practicable tried.

A NEW INDIAN REGULATION REGARDING ENTERIC FEVER.

In connexion with the subject of enteric fever among soldiers serving in India, the *Times of India* of Sept. 23rd publishes some new regulations, dated Lahore, Sept. 21st. "The medical authorities of the Northern Command have framed rules to avert enteric fever cases as far as may be possible by fixing a period of 28 days' segregation for newly arrived men at a military station. It has been proved that enteric fever in the past has, to a great extent, been introduced into stations by regiments and drafts arriving from abroad and also by detachments coming from infected stations. It is hoped that if these new rules are strictly adhered to the dissemination of the disease will be largely prevented in future." We may add that care should be taken in this country not to embark officers and men so that they arrive in India during, or soon before, the hot season in that country.

THE ROYAL NAVAL HOSPITAL, STONEHOUSE.

The new block of buildings at the Royal Naval Hospital, which has been occupied since the beginning of the month, has been erected for the reception of insane service patients under observation or awaiting transfer to the asylum at Yarmouth or to their own settlements; service men undergoing punishment who may require hospital treatment are also received here. For the latter description of patients, who are to be classified separately, no special accommodation has hitherto existed in the hospital.

MEDICAL OFFICERS' INSTRUCTION.

In order to facilitate medical officers of the Imperial Yeomanry and Volunteers qualifying for promotion, classes of instruction will be held at the Queen Alexandra Military Hospital, Millbank, half-yearly, from Jan. 1st to 14th and July 1st to 14th in each year.

Correspondence.

"Audi alteram partem."

VARICOCELE—WHAT OF IT?

To the Editors of THE LANCET.

SIRS,—The letters which appear weekly in your journal on the above subject bear out a fact which is perfectly well known to the majority of army medical officers—viz., that in the case of probably 95 per cent. of soldiers who suffer from large varicocele, no symptoms are ever complained of and no necessity for interference with it by operation exists. At the same time the possession of such a varicocele can at any time be made the ground of escaping some duty. The soldier cannot be compelled to submit to operation and if he declines it he cannot be punished for his reporting sick with a disability which enables him to escape an unpleasant duty. He has only to continue to report sick and to refuse operation in order to obtain his discharge from the service by invaliding. In this case he is not transferred to the Army Reserve and the whole of the money which has been spent on his training is lost to the State. It is the knowledge of these facts which causes army medical officers to refuse any recruit who may possess any disability, whether it be of the nature of varicocele, varicose veins of the legs, deficient teeth, hammer-toe, &c.; not that they believe that in the majority of instances such trifling affections will ever prevent a man from doing his duty but that no man should be enlisted who has the means of "going sick" whenever he wishes to escape some unpleasant duty. In the case of the officer we have an individual who can resign his commission at any time and so there does not appear to be any necessity for subjecting him to operation for a varicocele which most probably will never trouble him.

I am, Sirs, yours faithfully,

F. J. W. PORTER, D.S.O.,
Major, R.A.M.C.

Oct. 23rd, 1905.

To the Editors of THE LANCET.

SIRS,—In a paper on varicocele in the third volume of Guy's Hospital Reports for the year 1837, by Sir Astley Cooper, there is the following paragraph: "In some persons the disease occasions a mental depression. The patient believes himself bereft of his virile power; and this impression with the pain he feels in the part and in the loins, with the weakened power of digestion, and the influence this produces on the nervous system, leads him to seek assistance which he has not been able to obtain, and he is ready to accede to any proposal for his relief. In general, however, this complaint produces little inconvenience and is scarcely heeded by the

patient in the greater proportion of cases and it ought not to depress his spirits, nor is there cause for apprehension either for the present or for the future."

I am, Sirs, yours faithfully,

Oct. 23rd, 1905. S. W.

DISEASES OF DISEASE GERMS.

To the Editors of THE LANCET.

SIRS,—In my address at the Medical Society which you published in THE LANCET of Oct. 14th I mentioned that a doctor in South Africa had said to me that "the study of the diseases of disease germs may one day become one of the most profitable fields of research." As you have honoured this statement with your approval I think it only right to mention that its author is Dr. A. H. Watkins of Kimberley, with whom I had the pleasure of staying during the visit of the British Association to that town.

I am, Sirs, yours faithfully,

Stratford-place, W., Oct. 24th, 1905. LAUDER BRUNTON.

THE PREVENTION OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—In the numerous letters and articles which have appeared in your columns on this subject all the writers are agreed on the advisability of sanatorium treatment for early cases of phthisis. But few do more than merely mention what appears to me to be of at least equal importance—namely, the treatment of advanced cases. Surely those cases with extensive disease, profuse expectoration, and innumerable bacilli are much more dangerous to the community than the early cases with few bacilli and little or no expectoration. And yet no provision is made for them. Numbers of advanced cases apply for admission to sanatoriums and chest hospitals only to be told that they are too bad to be taken in. Where can they go to? General hospitals will not have them, sanatoriums and special hospitals refuse them, and there remains only the workhouse infirmary. Rather than send them there, their relatives and friends make heroic sacrifices and nurse them in their own homes where the poor sufferers end their days without the comforts of good nursing and medical attention so easily provided in hospitals, and the self-sacrificing relatives themselves fall victims to the same disease. And so is consumption spread.

What is the remedy for this? Every large town should have a special hospital for consumption. To these hospitals all cases of phthisis should be admitted. Any cases which in the opinion of the experienced physician in charge had so small an extent of disease as to merit hope of permanent recovery could be sent on to sanatoriums. All other cases should be retained in the hospital. Many of them would improve to a certain extent—since open-air treatment, even in advanced cases, lessens the cough, stops the night sweats, aids sleep, and improves digestion—and could be sent home, having been taught how best to relieve their own sufferings and how to avoid being a source of danger to their neighbours, and knowing that when they relapsed they could return to the hospital to be again patched up or to end their days. These hospitals need not be expensive buildings standing in extensive grounds. Plain buildings with balconies are all that would be required. They should be in the town itself to avoid the fatigue of railway journeys and to enable patients to be visited by their friends. The experience of the Victoria Park, City Road, and Brompton Hospitals shows how much phthisical patients benefit by open-air treatment even in London. If possible they might be built overlooking a public park or open space, or at least in a situation where the surrounding houses are not high. In order to draw cases from all classes certain wards might be reserved for patients willing to pay 10*s*., £1, or more per week, thus providing a certain amount of social differentiation. But no cases should be refused.

By these means the advanced and dangerously infective cases would be isolated; their friends and relatives instructed in hygiene and the prevention of phthisis; sanatoriums would be relieved of the hopeless cases on which they spend so much money at present and would be able to devote themselves entirely to genuine early cases; and, lastly, the unfortunate sufferers from advanced phthisis would have a refuge where they could be relieved of much of the suffering and discomfort which they are at present doomed to endure. And in this way much would be done for both the prevention and the cure of consumption. In conclusion, let me relate the following case. There is at present in a consumption hospital a young girl who has phthisis. It is possible that in her case the disease may be arrested and she will be sent home. She lives with her mother who has advanced phthisis. One brother and one sister have already died from phthisis. How can she hope to escape reinfection? There is still another younger sister living at home who is not at present known to have phthisis. What chance has she of escaping the fate of her brother and sisters?

I am, Sirs, yours faithfully,

Oct. 7th, 1905. LEONARD CROSSLEY, M.D. Edin.

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

To the Editors of THE LANCET.

SIRS,—I have just read the reprint of Dr. W. J. McCardie's excellent paper in THE LANCET of Oct. 7th, on Ethyl Chloride as a General Anæsthetic, and can most decidedly give my experience in favour of the drug. On Sept. 8th last I was anæsthetised at the Private Hospital, Newhall-street, Birmingham, for an operation for gall-stones by Mr. Jordan Lloyd. I may say that I was not in any state of fear when I lay on the operating table, and I am for the most part a water drinker because I am gouty but I did what Dr. McCardie told me to do and that was to breathe quietly. On the second inhalation I found the anæsthetic effect commencing and after the fourth inhalation I was completely unconscious. This would make the time for securing unconsciousness from ten to 12 seconds. I know I had time after the second inhalation to put my hands under my thighs in case of my struggling. I can state that the pleasant, quiet, and the rapidly increasing state of unconsciousness during the administration by Dr. McCardie was, to my surgical mind, a perfect method of anæsthesia. For the remainder of the time, the operation taking about three-quarters of an hour, I understand ether and chloroform were used.

I am, Sirs, yours faithfully,

Windfield, Co. Galway, Oct. 19th, 1905. W. PUGIN THORNTON.

THE RATIONAL TREATMENT OF RUNNING EARS.

To the Editors of THE LANCET.

SIRS,—Whatever the defects of my book, I have a right to complain of your reviewer whose review is a deliberate misrepresentation as may easily be proved. He begins: "This pamphlet by Mr. Faulder White is stated by him to be a public protest against the dangers of intra-meatal operations." The chief object of my publication being to show the safety of such operations, I never made any statement of the kind. He continues: "With regard to Mr. White's method of otectomy it is to be noted that removal of the larger ossicles only is meant." My description of otectomy on pp. 30 and 31 shows that this is far from being the case and such an assertion on the part of your reviewer is difficult to understand or to excuse. As to my so-called abhorrence of the radical operation, I certainly share the opinion of a leading London surgeon who wrote to me, "I quite agree, too much heroic drilling and gouging," but I have not denied its being called for in certain cases where neglect has led to serious complications. Your reviewer must know that this very book gives cases in which I have performed it. But his only object seems to be to discredit me at any cost of truth. He kindly goes on to say: "Mr. White has for many years advocated certain methods of treatment which have not been accepted by the profession at large. On this point perhaps I am better informed than your reviewer but I will now merely say that it is not yet two years since I first wrote an article on otectomy and that those who have seen most of the results of my treatment are most appreciative.

After all, my methods are of chief interest in their results but your unfriendly critic has nothing to say of the long series of successful cases—successful after other methods had failed to cure. I think I have said enough to convince you that I have been seriously misrepresented on matters of fact

and for this reason have confidence that as a mere matter of justice you will publish this letter.

I am, Sirs, yours faithfully,

Coventry, Oct. 8th, 1905. F. FAULDER WHITE.

*** Our reviewer writes: "I need hardly assure you that Mr. White is wrong in imputing deliberate misrepresentation to the reviewer of his pamphlet. By an oversight the words 'the common teaching of' were omitted before 'the dangers,' &c., in the second line of the notice, as might have been guessed from the agreement with Mr. White that is implied in the next paragraph. Mr. White is wrong to say that he is misrepresented as to otectomy and I refer him to p. 14 of his pamphlet, the teaching of which is only partially modified on p. 30, and not in the pamphlet proper, but in a reprint of a paper read before the British Medical Association. With regard to Mr. White's views on the mastoid operation I stated the impression that I derived from his own words and looking again (at p. 11, for example) I do not see any misrepresentation. In respect of the time during which Mr. White has been engaged in promulgating his views, he says on p. 5: 'I have received of late a number of letters from medical men asking for the literature of my methods of treatment of otorrhœa. Such literature as I am responsible for is scattered amongst old numbers of various medical papers and sundry pamphlets. ..... I am now publishing a recapitulation of the work done by me in this direction.' I believed what he said and would suggest, if the words are not to be taken literally, that in any future edition of his work the statement should be deleted. But I would refer him to the pages of THE LANCET—a letter published in 1899 (Jan. 21st, p. 191). The reference in the review to the methods which he advocates did not take into account his method of otectomy only."

AN ESPERANTO SOCIETY FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—There are many medical men in this country who would gladly take a keener interest in medical affairs in other parts of the world but who are debarred on account of the impossibility of devoting enough time to the study of one or more foreign languages. They are thus prevented from enjoying the pleasures of social intercourse with French, German, or other foreign practitioners, nor can they read foreign original contributions to medical literature. Now that Dr. Zamenhof has given us a practical international language which, whilst admirably adapted for the purpose, is yet immeasurably easier to acquire than any continental tongue, medical men abroad are rapidly availing themselves of this opportunity for coming into closer touch with each other. Whilst we in this country are cautious in regard to innovations which promise such far-reaching effects, the language is spreading amongst us and with a view to utilise its possibilities for international intercourse a society or group has been formed for English-speaking medical men. This society will act as a national centre for bringing its members into touch with foreign practitioners, for facilitating the interchange of friendly visits, for securing international correspondence, literature, and magazines, and will work with the French and other medical groups generally in advancing the international *entente*. All medical men who feel the need for a simple international tongue are invited to join this group.

I am, Sirs, yours faithfully,

E. T. WHITAKER,
Secretary of the Group.

White Lodge, Shrewsbury, Oct. 16th, 1905.

THE PRESENT STATE OF MEDICAL PRACTICE IN THE RHONDDA VALLEY, SOUTH WALES.

To the Editors of THE LANCET.

SIRS,—It was with considerable interest that I read your correspondent's article hereon in a recent issue of THE LANCET. I have always been surprised that in spite of the increase of the number of "ethical" divisions of the British Medical Association throughout the kingdom during the last few years the condition of the medical profession in South Wales has not long since been examined and discussed in the medical periodicals.

I am in thorough agreement with your correspondent's facts as to the methods and practices in colliery districts in South Wales, particularly in the Rhondda and Aberdare Valleys, and speak with the authority of several years' experience as an assistant officer in those places. My experience in that capacity has convinced me that the bed-rock of the discontent prevailing between the miners and our profession is the "monopoly" principle. This undoubtedly is the curse of the system.

Originally the appointment of medical officers was, for the most part, made by the proprietors of the works or their representatives. Sooner or later after appointment the medical officer gradually gave more and more of his time and attention to develop his private practice and to accomplish this more and more of his "club" practice had to be, and was, relegated to his assistants. As this went on and as the development of the private practice became more apparent and flagrant the miners, tardy though they were in making the discovery, noted the injustice and realised at last how this behaviour on the part of the medical officer affected them. Countless were the cases when the chief medical officer unflinchingly refused to pay a night visit to a "club" patient. Invariably the assistant had to go unless the patient were an "official" at the works. The chief medical officer's salary (a very handsome one, as a rule) was secured by the poundage system at the works' office. With this as a good asset he would be able to give less service to his secured "club" practice and pay more attention to the private practice. His private practice gradually develops and ultimately yields a handsome return. Nevertheless, I have known instances in the smaller colliery districts where, as your correspondent states, many private patients have never received an account for services rendered by the chief medical officer at the colliery. But the reasons for this generally lie in the discontent of the miners in those districts, which discontent is often allayed by the so-called "private" patients who, in one way or another, use their influence to quell the discontent on the principle of *quid pro quo*.

The fact is, Sirs, that the chief medical officer, having once secured a monopoly, in most cases develops a falsely independent and highly autocratic spirit in his dealings with the miners. It is this spirit which fans the discontent into flame and leads to the constant discussion among the workmen of want of attention or treatment in particular cases which so often arise. Other complaints constantly heard are that the chief medical officer will not pay a night visit to a club patient when requested. The inevitable result is that the workmen devise a scheme for remedying the evils from which they suffer. Formerly these grievances were not taken notice of because they were instantly hushed up by the interference of the officials at the works at the request of the chief medical officer. Consequently, the private practitioner was called in and the workmen then rightly considered that they were paying "twice over"—i.e., to the "works doctor" under the poundage and also to the private practitioner. So much for the origin of the "schemes" which one hears of so much in these days—schemes which, I repeat, are due largely, if not entirely, to the abuses of the chief medical officers which I have detailed above. The schemes are the workmen's "retaliation" in return for the "monopoly" of the chief medical officers at colliery districts.

With regard to the "remedy" suggested by your correspondent and by "Private Practitioner" I entirely disagree with them, because it seems to me that their remedy is more open to abuse, if possible, than the state of things already existing, while it opens up fresh avenues for practices of a "shady" character. To illustrate what I mean, take a colliery district, say, where 1200 men are employed. Let us consider that A, B, and C are the three professional men by whom each of the men may choose to be attended. As a rule the income of A, B, and C from this colliery will depend upon the good opinion the workmen have of them, professionally or otherwise. At the end of the first quarter, say, A's retinue at the works numbers 600 while the remaining 600 pay to B and C. B and C are dissatisfied and, Sirs, to my knowledge in such cases they very soon by hook or by crook ingratiate themselves into the good opinion of the

more prominent and voluble of A's 600. The "hook" may be a gratuity and the "crook" an evening at B or C's home. Six months later! What a change! A now has 300 workmen paying to him at the colliery; B who used the "hook" and "crook" has 800 paying to him. C is looking out for private practice! Such things have been, are, and will be where your correspondent's scheme is in vogue, and his "open door" scheme turns out to be a "closed door" scheme to the medical officer who, come what may, never flinches in honourable conduct and who tries to give point to the precepts so loudly talked about at the ethical branch by his colleagues. Alas that such things are tolerated!

There are "doctors' committees" in existence in South Wales, Sirs, which reduce the possibilities of the contemptible practices referred to to a minimum. The committees are composed of the chief officials at the works, who are permanent *ex-officio* members and form one-third of the committee; the remaining two-thirds consist of workmen, a fixed number of whom are elected at regular intervals. In these cases the "official" members of the committee act as a check to the workmen on occasions when their feelings are liable to get the better of their reason. This is called the "closed door" system—a system which I heartily commend. The chief medical officer is appointed by the committee, is given a good salary, and is limited to service to the men—that is, he is allowed no private practice. He appoints and controls his assistants who, in turn, are paid by the committee, who also pay for drugs, appliances, &c. In this way the committee under the poundage system are effectively served and the position of all concerned is an honourable one. This scheme is working and has worked well for years in some districts.

I must apologise for taking up so much of your valuable space but I felt compelled to bring the above facts to your correspondent's attention in order, I trust, to assist him in suggesting the best solution of the situation.

I am, Sirs, yours faithfully,

Oct. 17th, 1905. ANOTHER PRIVATE PRACTITIONER.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hollymoor Asylum.

THE lunatic asylums committee of visitors, in its report presented to the city council on Oct. 24th, included a statement of the new asylum at Hollymoor, showing the amount authorised by the council, the actual expenditure, and the net result achieved on the completion of the work. The city council consented to an expenditure of £249,250, an amount which was not intended to include the cost of equipment. Many items of expenditure not originally contemplated have become necessary from time to time and yet, in spite of these, a saving on the builder's estimate has been effected of £15,874 13*s.*, a saving, moreover, which has not lessened in any way the usefulness, stability, or size of the building. The saving seems to be largely attributable to the fact that a medical superintendent's house became unnecessary in consequence of the permission given by the Commissioners in Lunacy to treat Hollymoor as an annexe of Rubery Hill. The sum authorised by the council for the furniture and the general equipment of the building was £16,500 but the Local Government Board decided that of that amount £2874 for clothing and £150 for books should be chargeable to the maintenance and not to the capital amount so that the committee was allowed the sum of £13,476. The amount expended was £12,742 15*s.* 1*d.* There was a saving over every item except furniture. The arrangements are working very satisfactorily; accommodation has been provided for 604 patients and at the present time 461 are in residence. It is also proposed to admit patients from beyond the city—a contract has already been entered into with the asylum authorities of the London County Council for the reception of additional patients—and this temporary arrangement will of course enable the institution to be worked more economically than if the establishment were only partially filled. The scheme, to which I referred in a previous letter, whereby accommodation was to be provided in the city asylums for paying patients, has now been approved by the asylums committee. The charges will vary from 15*s.* as a minimum to £2 per week. The chairman of the committee has stated that in providing such accommodation there was no intention of competing with private institutions but I fail to see how it can be avoided.

The Health of Birmingham and District.

There has been the usual increase at this period of the year in the cases of scarlet fever. At the close of last week there were 347 patients suffering from this disease in hospital.—The Nuneaton small-pox epidemic seems to be now past; in all 76 cases have been notified; there has been only one death.—A serious outbreak of diphtheria is reported from Westen; nine cases occurred in five houses. The medical officer considered that in some instances the drainage was defective and improvements were being made. In other cases it was stated that the water-supply was not good. The schools have been closed until Oct. 22nd.—Two families in Birmingham have narrowly escaped suffocation from gas which entered their houses in consequence of a service pipe running from the main having been broken by the passage of a steam roller. The service pipe was only from 12 to 14 inches below the level of the streets.

Oct. 24th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Water-supply.

THE chairman of the water committee of the city council made an interesting statement at the last meeting of the committee with regard to the water-supply of the city, the scope of which grows steadily year by year. There are now within the compulsory limits of supply 2760 more tenants than there were a year ago. In the compulsory area of supply there is a population of 880,000 and outside those limits Liverpool supplies in Chorley 27,700 people and in other districts, where the supply is given in bulk, there is a population of 165,000, so that about 1,072,000 persons are now dependent on the corporation of Liverpool for their water-supply. The total quantity of water supplied from the works of the corporation during the 12 months has been 10,827,412,000 gallons, an increase of 343,275,000 gallons as compared with the previous 12 months. There has been a slight falling off in the quantity sold by meter for trade and manufacturing purposes, the falling off being principally outside Liverpool; but some compensation is to be found in the fact that the shipping, on which the city of Liverpool mainly depends, has taken 221,000,000 gallons, as against 215,000,000 last year. The quantity of water sold in bulk along the Rivington and Vyrnwy aqueducts was 782,000,000 gallons, an increase of about 53,000,000 gallons, being a considerable source of revenue. The committee has laid during the year in and around Liverpool rather more than 13 miles of new mains. Considerable work has been done in improving and maintaining the works. Out of a total length of 2442 yards of the Marchnant tunnel about 1180 yards have been driven and the electrical energy generated by the utilisation of the water power at Lake Vyrnwy, which was completed during the year, has been utilised by the engineer at the outlet end of the tunnel. Tenders have been accepted for the construction of three new filter beds at Oswestry and the covering of a portion of the goit near Withnell has been commenced. This is an important improvement of the Rivington works. Altogether it will be seen that the operations of the Liverpool water-supply are on a very extensive scale. The water-rate is estimated at 7¼*d.* in the £.

Liverpool School of Tropical Medicine.

Professor Rubert W. Boyce on Oct. 17th despatched from Belize, British Honduras, a telegram, which arrived at the Liverpool School of Tropical Medicine on the 23rd, saying that he proposed to leave for Liverpool *viâ* New Orleans on the following day. It will be remembered that Professor Boyce went to New Orleans to study the outbreak of yellow fever with the view of coöperating with the medical authorities there in stamping it out. He was then invited to proceed to Belize on a similar mission. A gratifying compliment is paid to this institution in a leading article in the *Daily Picayune*, a prominent New Orleans journal, advocating the location in New Orleans of a school for the study and treatment of tropical diseases. "There is one," says the *Picayune*, "at Liverpool, the reason for which is seen in the fact that that great commercial port

deals with shipping from every zone of our globe and may come in contact with every possible foreign disease. If such a school is appropriate at Liverpool, which is in a high northern latitude, how much more is it needed here, almost on the edge of the tropics and coming into prominence as one of the world's great ports. The idea of sending, as does the Liverpool School, its professors and graduates to all quarters of the earth to study diseases is full of the most enterprising enlightenment and we could do it as well as another."

Annual Medical Service at St. Luke's Church.

There was a large gathering of members of the medical profession at the annual service at St. Luke's Church on Oct. 15th (for St. Luke's Day), when the sermon was preached by the Bishop of Ripon. Dr. Chavasse, the Bishop of Liverpool, and Archdeacon Madden, the vicar of St. Luke's Church, assisted in the service. The Bishop of Ripon preached a characteristic sermon based on the text in Rev. x. 8. He pointed out that the progress of the world had not simply arisen from the observation of external and physical facts; it was the spirit that was in the man, more than the knowledge he possessed, that was requisite to make the true success of life. The collection, which was on behalf of the British Medical Benevolent Fund, amounted to £32 16*s.*

Liverpool Medical Institution.

Owing to unforeseen circumstances the progress in the alteration of the Medical Institution buildings has been considerably retarded, many difficulties presenting themselves which had not been anticipated by the contractors. The council has therefore been compelled to postpone the opening of the ordinary meetings of the winter session. The precise date of opening cannot yet be fixed but it must be some weeks before the building can be out of the hands of the contractors. The expense of the alterations will be considerable, towards which the members have already contributed about £1500.

Oct. 24th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

University College, Cardiff.

THE treasurer of University College, Cardiff, reported to the court of governors held on Oct. 19th that a sum of £28,000 had been promised towards the new College buildings which are in course of erection in Cathays Park. The actual number of subscribers is small, 21 individuals having given collectively £20,000.

Colliery Surgeons in the Rhondda Valleys.

The ballot which has recently been taken in some parts of the Rhondda Valleys to ascertain whether the colliers desire to retain the present method of payment to the colliery surgeons reveals a great difference of opinion on the question. At all the collieries except three in the two valleys 3*d.* in the £ is deducted from the colliers' wages and is paid over to the colliery surgeons. At two collieries, and with respect to some of the workmen at a third, a poundage is levied upon the colliers but a fixed salary is paid to the colliery surgeon. The ballot at the collieries of the Glamorgan Coal Company, known locally as the "Scotch" pits, shows a preference for the system of paying a fixed salary but the men who work at two of the Ocean collieries in Cwm Park have declared themselves as in favour of the existing system. It is a little striking that the Cwm Park colliers should have come to this decision, for they live within a couple of miles or so of Treherbert where the fixed salary principle has been in operation for a year or two.

School Children and Infectious Disease.

At a meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health, held at Gloucester on Oct. 19th, Dr. Francis T. Bond, the newly elected President of the branch, pointed out the difficulties attending the exclusion from school of children in the very earliest stages of infectious diseases. The head teacher often sent a child home because he was not feeling well, the school attendance officer promptly drove the child back to school, and in a day or two the development of the child's illness resulted in his companions being laid up with the same disease. There seemed to be an internecine conflict between the school attendance officers and the officers of the sanitary authority. Dr. Bond suggested that the school teachers should send to the medical officer of health the name and address of every child known to them to be absent from school through illness. In the course of discussion Dr. J. D. Jenkins, medical officer of health of the Rhonnda urban district, stated that one of the provisions of a private Act in force in the Rhondda empowers the medical officer of health to acquire this information from the head teachers when he considers it is necessary and payment is made at the rate of 2*d.* for each list and 2*d.* for each name on the list.

The Spread of Infection by Tramps.

Following a practice adopted in many other districts the Bristol board of guardians has appointed a police officer as assistant relieving officer for the purpose of giving to vagrants admission notes to the casual wards of the workhouse. Early in June last a tramp obtained an admission note at the police station, then wandered about the town for an hour or more, and when he arrived at the workhouse was found to be suffering from small-pox. In order to avoid a repetition of such an occurrence the house committee has advised the board of guardians to rent a room adjoining the police station, so that when a tramp is suspected of being in an infectious condition he may be isolated until he is seen by a medical man. The cost of this precautionary measure would only amount to a few pounds yearly, but the board decided not to give effect to the very prudent recommendation of the committee.

Newport Isolation Hospital.

It is a matter of common knowledge that municipal enterprises are very commonly due to the initiation and energetic advocacy of one person but it is rarely that any permanent record is left of this fact. It is gratifying to find an exception in the case of the isolation hospital at Newport (Mon.) where a portrait medallion has been erected to the memory of the late Alderman Thomas Jones who died two years ago and to whom was due the erection of this very useful institution.

Exeter Poor-law Infirmary.

The necessity for increased accommodation for the sick poor of Exeter has for some years engaged the attention of the board of guardians and in May, 1902, it was decided, with the sanction of the Local Government Board, to erect a new infirmary with 150 beds and also to bring the old buildings as far as possible up to modern requirements. The cost of the whole of the undertaking was estimated at £16,000. The new infirmary, the foundation-stone of which was laid in November last, is now completed and was formally opened by Sir Thomas Acland on Oct. 18th in the presence of a large gathering. The cost of the building and furnishing was £11,160. The guardians now intend to complete their scheme by improving the old Poor-law infirmary by revising the sanitary arrangements and making other much-needed improvements.

Oct. 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointment to the Chair of Midwifery in the University of Edinburgh.

THE curators of the University of Edinburgh have elected Sir John Halliday Croom to the chair of Midwifery in the University vacant by the resignation of Professor A. R. Simpson. The newly elected professor is a graduate in medicine of Edinburgh of the year 1868. He became Doctor of Medicine in 1882, when he was awarded a gold medal for his thesis. He is a Fellow of both the Edinburgh Royal Colleges and has been both President and Vice-President of the Royal College of Surgeons. He was knighted at the time when he occupied the presidential chair. Sir J. Halliday Croom is well known to Edinburgh men, for he has for many years been a prominent teacher of midwifery in the Edinburgh School. When Professor Simpson was appointed to the chair in succession to his uncle, Sir James Y. Simpson, Dr. Croom became his University assistant and the University tutor in midwifery and gynæcology. When he resigned these appointments he began to lecture on midwifery in the Extra-Mural School and that he has continued to do to the present time. He is

thus an experienced teacher and he has been a successful and a popular one. For fifteen years he was one of the gynæcologists to the Royal Infirmary and for twenty years he was a physician to the Royal Maternity Hospital. His obstetric brethren have shown their estimate of him by electing him President for three years of the British Gynæcological Society. He has also been president of the Edinburgh Obstetrical Society and of the section of obstetrics of the British Medical Association. He is the author of a useful little work on "Minor Gynæcological Operations and Appliances" and has written a number of papers containing his experience of various abdominal conditions. As Vice-President of the Royal College of Surgeons of Edinburgh he took a prominent and helpful part in the various ceremonials when the College was celebrating its quater-centenary in July last. There is no doubt that the new professor will be a successful and popular teacher in the University.

Election of the President of the Royal College of Surgeons of Edinburgh.

The Royal College of Surgeons of Edinburgh at its meeting last week elected Dr. Charles Watson MacGillivray to be President of the College in succession to Sir Patrick Heron Watson whose term of office had expired. Dr. MacGillivray is a graduate of Edinburgh of 1873 and became a Fellow of his College in 1877. He is the senior ordinary surgeon to the Royal Infirmary and is the last of the hospital surgeons of the Edinburgh School who is engaged in family practice. The place which he occupies in the esteem of his colleagues is sufficiently indicated by his election to the presidential chair of his College at a comparatively early age.

The Opening of the Winter Session in Edinburgh.

The medical classes in Edinburgh, both University and Extra-Mural, were opened on Oct. 17th. The class of midwifery awaits the installation of the new professor.

The Opening of the Winter Sessions in Glasgow.

The opening of the winter session has taken place at the University of Glasgow and Queen Margaret's College. Matriculation is still proceeding and as enrolments can be made up to Nov. 10th it will be some time before the classes are in working order. It is evident, however, even by this time that last season's total number of students will be maintained at both institutions.—The opening of the winter session at Anderson's College Medical School was marked by the delivery of an inaugural address by Sir William Taylor, M.D., K.C.B., ex-Director-General of the Army Medical Service. In the course of an interesting and instructive address Sir William Taylor asked those beginning to study for the medical profession to think well before they decided to take upon themselves the responsibilities and strain which its duties entailed. It should not be considered a hereditary profession, for talent often slipped a generation, aye, often two generations, and, indeed, sometimes slipped out of a family altogether. In the Army Medical Service, after graduation, they were certain of a livelihood from the very beginning and certain of a pension after a given number of years, while there was also the privilege of serving with the soldiers of the King during the country's campaigns. After a great deal of effort the conditions of work in the Army Medical Service were now much improved. Everything was done to assist medical men in the army to maintain and to add to their knowledge. In weighing and considering the best possible career it was also necessary to view some of the disadvantages of the Army Medical Service. They were not many but they appealed very strongly to a good number of men. It must not be forgotten that in the army there was no possibility of amassing wealth or of insuring even a moderate fortune. Many years must be passed away from home, which by some was considered a disadvantage. Personally he did not look upon foreign service with as great dislike as many did and out of his 41 years' service he thought that something like 36½ years had been spent abroad. Proceeding, Sir William Taylor said that it had often struck him that there was a want of unity in the body of the profession at large and on account of that want of unity the profession did not occupy in the State that position to which it was entitled. It had even struck him that individual members were striving more for individual reputation than for the reputation of the profession. There were many fields yet unturned in the profession, many weeds to be rooted from medical advancement, and those taking up the work need not be discouraged by feeling that there was nothing left for them to do; they would find worlds in medicine and surgery yet to conquer. The medical man of the future would be made the guardian of the public health and would be responsible for seeing that it did not suffer in any way and it would be his duty to consider the physical and mental as well as the moral conditions of the people.

The Density of Population and the Death-rate.

At a discussion in the town council of Glasgow on the minutes of the health committee attention was drawn to the difference in the death-rates of the various wards, as shown in the table for the quarter ending Sept. 30th. The population in the 25 wards, excluding the residents in institutions, being 765,162, the number of deaths occurring in the wards was 2694, which gives a death-rate for the wards of 14 per 1000 per annum. That death-rate is, perhaps, the lowest the city has ever reached but it is not so low as it should be. In the districts added to the city in 1891 there lives a population of 147,248, and among these during the quarter there only occurred 318 deaths, giving a death-rate of 8·6 per 1000 per annum. Had the current rate all over the city obtained in the added districts forming Greater Glasgow instead of their being only 318 deaths in these districts during the quarter there would have been 556 deaths. This shows a saving of 248 lives for the quarter or 992 lives per annum. It was pointed out that to approximate the death-rate of Old Glasgow to the death-rate of Greater Glasgow they must decrease the density of the population in the congested districts. The sanitation all over the city is on the same scale; the difference in the death-rate therefore must largely be accounted for by the greater density.

Medical Officer for Inverness-shire.

At a meeting of the Inverness County Council on Oct. 19th, two applications were submitted for the office of chief medical officer of Inverness-shire and after considerable discussion as to the terms of the appointment, Dr. John Macdonald, Inverness, who had been acting since the death of Dr. Ogilvie Grant, and Dr. Fletcher Harris were duly proposed. On a division, the appointment of Dr. Macdonald was carried by 26 votes against eight. The terms are the same as formerly.

Oct. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal College of Physicians of Ireland.

AT the annual meeting of the Royal College of Physicians of Ireland the President (Sir William J. Smyly) admitted the following gentlemen to the honorary Fellowships which had been recently conferred upon them by the College:—Sir Richard Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London, Anthony Traill, M.D., Sc.D., LL.D., Provost of Trinity College, Dublin, and William Osler, M.D., F.R.C.P., Regius Professor of Medicine at the University of Oxford.

St. Vincent's Hospital, Dublin.

The annual dinner of the medical staff and past students of St. Vincent's Hospital took place on Oct. 17th, Mr. J. S. McArdle occupying the chair. There were a number of distinguished guests present, including the President of the Royal College of Physicians of Ireland, the President of the Royal College of Surgeons in Ireland, the Recorder of Dublin, and many others.

Queen's College, Belfast.

The winter session began on Oct. 17th. The second list of subscriptions to the better equipment scheme of the College in order to raise £20,000 to claim Sir Donald Currie's offer of a similar sum, was published on Oct. 21st and amounts to £1607 4*s.*, the total amount being now £14,161 9*s.* About £6000 still remain to be raised and it is hoped that all old graduates will see their way to join in a movement by which Queen's College, Belfast, will be so much benefited.

Joseph Black.

Considerable amusement has been caused in Belfast by the want of information displayed by the Premier in his speech in Edinburgh on Oct. 19th, on the occasion of his receiving the freedom of the city, in claiming as a great Scotsman Joseph Black, the chemist, who was professor of medicine

and chemistry in Edinburgh in the eighteenth century. As is well known, Joseph Black was the son of a wine merchant in Belfast and Bordeaux, John Black, who married the daughter of a fellow merchant in Belfast, Robert Gordon, a name that has not disappeared in connexion with the wine trade in Belfast. Their son, Joseph Black, celebrated for his discoveries in regard to carbonic acid and latent heat, was born in Bordeaux in 1728; but he was a true Belfast man for all that and was educated at the "Belfast Grammar School" long before there was any local college. He lived with his father at a well-known place, Stranmillis, in the suburbs of Belfast, and his descendants, Clarkes and Richardsons, are well-known Belfast citizens at the present moment.

Royal Victoria Hospital, Belfast.

The formal opening of the medical session for 1905–06 took place at the Royal Victoria Hospital on Oct. 24th, when Dr. J. S. Morrow, assistant physician, delivered the inaugural address which took the form of a series of most interesting suggestions to students as to the best means of arranging their time so as to avail themselves to the fullest degree of the opportunities afforded for acquiring a sound practical knowledge of their profession. The lecture, which was full of suggestive remarks, practical hints, gay wisdom, and good-natured humour was received with the greatest pleasure by a very large audience of students and teachers in the school. At its conclusion, on the motion of Dr. J. Walton Browne, chairman of the medical staff, seconded by Sir William Whitla, a hearty vote of thanks was accorded to Dr. Morrow.

Oct. 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Two Cases of Mediastinal Pleurisy; Thoracotomy; Recovery.

AT the meeting of the Academy of Medicine held on Oct. 3rd M. Fernet related two cases, the one under his own care and the other under a colleague, of mediastinal pleurisy. In both cases the primary cause of the pleurisy was a focus of infection on the surface of the left lung situated on the internal aspect of the superior lobe near the interlobar space. The infection was pyogenic in the first case following on pneumonia and septic in the second following on pulmonary gangrene. In both cases a pleurisy with effusion developed which invaded the whole of the left mediastinal pleura with prolongations into the interlobar space and into the diaphragmatic pleura. The general cavity of the pleura, however, escaped. As both the seat and the extent of the effusion in these two cases were similar M. Fernet considered that there must be some anatomical or physiological factor to explain the peculiarity. The diagnosis of mediastinal pleurisy is difficult, for though its existence may be suspected it is not until a careful search for physical signs has been made that the physician can find a zone of limited dulness with absence of pulmonary bruit which gives him the key to the mystery. In the two cases referred to this zone was close to the vertebral column at the level of the interlobar space. Radioscopy was used to confirm the diagnosis. Operation was performed in both cases after the method of Quénu. After an exploratory puncture a long incision was made between the vertebral column and the scapula, portions of two ribs were resected, and the mediastinal pleura was incised and drained. In the second case, where the effusion was putrid, frequent injections of horse's serum, after the method of Raymond Petit, were employed and were found to alter in the most favourable direction both the focus of infection and the toxic symptoms which were its direct consequence.

Radiography in the Diagnosis of Renal Calculi.

At the ninth session of the French Association of Urology which was held from Oct. 5th to 9th M. Nicolich pointed out the utility of radioscopy for the diagnosis of renal calculi, exploratory incision of the kidney thus being rendered unnecessary. M. Nicolich cited two cases in which he had been able by means of radioscopy to ascertain the presence of calculi in the kidney. The one was a case of pyuria which had been supposed to be due to bladder trouble and the other one which showed all the symptoms of renal tumour. In another case, that of a patient who suffered from bilateral renal colic, M. Nicolich had been able to ascertain the presence of a calculus in one kidney only. Radioscopy enabled the surgeon to determine both the position and the size of the calculus and thus aided him in estimating the extent of the renal incision. M. Nogues added two remarks which he said arose out of M. Nicolich's cases—one that renal calculi which existed without giving any sign of their presence could be detected by radioscopy, and the other that the presence of calculi favoured the onset of new growth.

The Operative Treatment of Stercoraceous Tumours.

At the meeting of the French Congress of Surgery which was held from Oct. 2nd to 7th M. Pozzi gave an account of a case which had been recently under his care. The patient was a man who had for years suffered from an abdominal tumour of absolutely wooden consistency. It extended from the umbilicus to the pelvis and was moveable only in a transverse direction. Many surgeons had examined the patient without being able to give an exact diagnosis. M. Pozzi performed a laparotomy and found that the tumour was the lower part of the sigmoid flexure which was distended by a stercoraceous mass of a stony hardness. M. Pozzi slit up the intestine for some 13 centimetres and removed the mass. He sutured the wound and finally puckered the gut, which was enormously distended, with Lembert sutures until he reduced its cavity to nearly the normal size. The patient recovered without a bad symptom.

Pneumothorax and the Administration of Adrenalin.

At a recent meeting of the Hospitals Medical Society M. Galliard gave an account of a case in which a tuberculous patient was attacked with hæmoptysis. No drugs appeared able to stay the hæmorrhage and adrenalin was therefore injected into the apex of the lung. The result was sudden and general pneumothorax of that side together with arrest of the hæmorrhage. A discussion arose as to the mechanism of the action of adrenalin. M. Dufour considered that in the case under review the arrest of the hæmorrhage was due to the compression brought about by the pneumothorax. For his own part he had never been able to arrest hæmoptysis with adrenalin. M. Lermoyez argued that adrenalin was eventually a vaso-dilator but that its first effects were to constrict the vessels, a constriction which lasted a long time. It could therefore be used as a transitory hæmostatic. Secondary hæmorrhage should always be looked for after the use of adrenalin to arrest bleeding. M. Josué said that this was due to the reaction which always followed the use of a drug for its physiological properties. M. Siredey, however, said that he had obtained excellent results in cases of metrorrhagia with adrenalin and had never seen any secondary hæmorrhage.

The Assistance Publique at the Ministry of the Interior.

M. Mirman, a Deputy, and an old student of the Normal High School, has just been appointed Directeur de l'Assistance et de l'Hygiène Publique at the Ministry of the Interior[1] in succession to M. Monod. Much regret is felt at M. Monod's departure both on account of the excellent work which he has carried on for the past 20 years with such activity and intelligence and because of the extreme courtesy which he has shown to everyone while in the exercise of his responsible duties.

Oct. 24th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

An Interesting Chapter in the History of Medicine.

THE Seventh International Congress of Hydrology and Climatology, which has just completed at Venice a programme of papers and discussions the importance of which will shortly be realised in its official "report," took its closing holiday at Salsomaggiore, where the director and staff of the "Stabilimento Termale" gave hospitable entertainment to a numerous body of the "Congressisti." At the banquet many speeches were delivered in the true spirit of scientific and professional brotherhood. The foreign representatives expatiated on Italy's resumption of her proper place in the forward movement of civilisation and congratulated her on her many-sided development, not least on her utilisation of her balneary resources, which

[1] This post must be distinguished from that of Director of the Assistance Publique which is at present held by M. Mesureur.—ED. L.

year by year are steadily brought up to the ever-increasing demands of the invalid world. The visit to the baths and the inspection of their appointments and working were appropriately supplemented with a historical sketch of their origin and evolution—a sketch due to the competent pen of Professor Ettore Baistrocchi, *privat-docent* of pathological anatomy in the University of Parma, whence, after the winter session, he passes to the "Stabilimento" at Salsomaggiore as its director and consultant-in-chief. It was by a humble but none the less intelligent and accomplished "medico condoto" (physician retained by the commune) that the resources of the place were first adequately recognised after they had long ceased to attract the attention which they had originally drawn from the Romans. Dr. Lorenzo Berzieri, the physician referred to, was a "Parmigiano" by birth and after graduating in medicine at the university of the province began in 1839, in his thirty-third year, to study the thermal waters of Salsomaggiore, the virtues of which had been impressed upon him by the following incident in practice. A little girl, six years of age, Franchina Ceriati by name, had for three years been suffering from a swelling of the right foot, on which an ulcer had formed and which had proved very refractory to treatment. Incipient caries of the bone had set in and Dr. Berzieri recommended the patient's removal to the seaside for salt-water baths. This her parents could not afford, so, as time was precious, he bethought him of the thermal springs of Salsomaggiore. These he knew were charged with chloride of sodium, which, on further examination, he found to be in far greater proportion than in the water of the Mediterranean, yielding with Beaumé's aréometer a minimum of "saturità" of 8° and a maximum of 30°. Accordingly, he gave the little girl a first bath from the "Acque Madri"—so-called from their maximum saturation with the chloride. This was on June 15th, 1839. But the water proved much too strong, causing a pronounced burning sensation at the ulcerated part. He then made another trial with a bath diluted down to 3°, protecting the broken surface with adhesive plaster from contact with the water. The baths were repeated from day to day till they had reached the number of 25, at which he desisted, the patient being by this time completely cured. She is now an elderly woman, aged 73 years, enjoying good health and after being retained in the "Stabilimento" as bathing woman for many years is now living as a pensioner on its funds. From this successful first case Dr. Berzieri proceeded to the treatment of others till in three years' time he had realised the full virtues of the waters in their varied composition and efficacy, confirmed as these were by the subsequent experiments and practice of Professor Valentini. Very appropriate is it, therefore, that in 1906, when the first centenary of Dr. Berzieri's birth comes round, special honour should be paid to his memory. He died in 1888 at Lucca which is to take a conspicuous part in the commemoration.

Misadventure in the Pasteur Treatment of Rabies.

At Baccanico, in the commune of Avellino in Southern Italy, three individuals, of the respective ages of 12, 20, and 30 years, after being bitten by a dog suspected to be mad, were, at the instance of the local practitioners, sent to the Istituto Antirabbico at Naples, there to be put under observation and treatment. At the fourth injection, practised in the abdomen, all three patients manifested pronounced pyrexia and very acute pain at the seat of injection, whereupon they were conveyed back to Avellino. On examination by the communal physician it was found that just where the last injection had been practised there was diffused erysipelas or, in continental parlance, "phlegmon." The two older patients were at once subjected to treatment but with small hope of their recovery. The youngest showed symptoms of meningitis, supervening on the "phlegmon," and shortly thereafter died, followed not many hours subsequently by the two former. Professor Mauro Jatta, of the bacteriological laboratory attached to the Public Health Department in Rome, was deputed to make an official inquiry at the Istituto Antirabbico of Naples and, assisted by other experts, proceeded to a searching examination of all the incidents connected with the recent cases of "death after injection." The report, based upon their conjoint labours, has been sent to headquarters. Manifestly some pernicious ingredient had found its way into the serum employed and the strictest surveillance is imposed on the institute, its *personnel*, and its laboratory to prevent the recurrence of such deplorable fatalities. Fear is entertained that the incident may foster the reactionary spirit all too liable in Italy to follow a similar misadventure, just as carelessness in the preparation of vaccine lymph has been known to furnish a welcome weapon to the antivaccinationist propaganda. Some years ago a poor peasant woman of Frosinone, having been bitten by an undoubtedly mad dog, was helped by friendly contributions to make a journey to Rome to be put under the Pasteur treatment. Just before starting she was induced by the priest to devote the money to the Madonna, whose intervention in answer to prayer would prove far more effective than the "cure." Having acted accordingly she died not many weeks afterwards in agonising convulsions. Pity it were if such occurrences as that recent one at Naples played into the hands of the "Christian Scientists" of Southern Italy.

The Senator Dr. de Giovanni.

As I write this great clinical professor and consultant in the Paduan school has been struck down with congestion of the brain supervening on chronic renal ailment. The whole profession throughout Italy shares the anxiety of his colleagues, by whom he has long been respected and beloved.

Oct. 20th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Laws against Cigarette Smoking.

THE more or less drastic legislation by means of which several of the central western States, notably Indiana, Nebraska, and Wisconsin, have attempted to restrict the practice of cigarette smoking is proving to be impracticable. While the object intended is a laudable one the means adopted have hardly been judicious. In the effort to attack the evil not only were penalties imposed on the luckless wights caught *flagrante delicto*, but even the possession or giving away of cigarettes, cigarette paper, or cigarette tobacco was made punishable by fines which were in most instances not less than $5, and in some cases amounted to as much as $500 for repeated transgressions. The system was, however, an intolerable restriction of the personal rights of the individual, it worked injustice to the traveller who, ignorant of the local prohibition, violated the laws on his passage through the tabooed districts, and the laws were unfair, since they were directed, not against the use of tobacco, but only against one mode of using it. The result is that they have been deliberately defied and are confirmed failures. While there is certainly room for discussion regarding the actual injurious effect of the cigarette smoked in moderation by adults, there is no doubt whatever that its use by young boys is extremely undesirable, and stringent laws against the sale of tobacco in cigarettes or in any other form to youths under 16 or 17 years of age would not only be rational and salutary but could also be enforced without difficulty.

The Army Canteen.

Another instance of a well-intentioned but hopelessly misguided attempt at reform was the abolition of the canteen at the United States Army Posts, an innovation which was effected largely at the instigation of, and through the untiring efforts of, the Women's Christian Temperance Union. No actual complaint could be brought against the manner in which the canteens were managed, for they were conducted simply as social meeting places for the men in which beer and light wines, but no strong liquors, could be bought. The idea of Governmental sanction of the use of alcohol in any form seemed so reprehensible to a certain class, however, that no pains were spared until the desired end was secured. The result has exceeded the expectations of even the most discerning opponents of the "reformers," for disease, drunkenness, and desertion among the enlisted men have increased to an incredible degree since they have been forced to seek their recreation in the vile resorts and drinking dens abounding in the vicinity of the military posts. In his annual report Brigadier-General Frederick D. Grant strongly urges the re-establishment of the canteen on the ground that it would tepd greatly to reduce the large total of court-martials of enlisted men, 75 per cent. of which he considers are directly due to the influence of the "dives" outside the barracks. The winner of the Seaman prize for 1905 took this same subject for his theme. The prize consists of $500 offered for the best essay on the prevention of disease in the army and methods of

accomplishing the result. At the fourteenth annual meeting of the Association of Military Surgeons of the United States, which opened in Detroit on Sept. 27th, the prize was awarded to Major Jefferson Randolph Kean, U.S.A., of Washington, D.C., for a paper in which he presented statistical proof of the increase among the soldiers of all kinds of disease secondary to dissipation since the abolition of the canteen and he therefore strongly recommended restoring it.

Diphtheria at the Naval Academy.

An epidemic of diphtheria among the midshipmen at the United States Naval Academy in Annapolis is giving much trouble to the authorities. All the students not affected have been removed to a training ship lying in the Severn river and the building in which the outbreak started has been vacated. As a further precaution the annual opening of the Academy is to be postponed until Oct. 30th.

Oct. 15th.

Obituary.

ROBERT SOMERVILLE, M.D. EDIN., F.R.C.S. EDIN., J.P.

ON Oct. 15th Dr. Robert Somerville of Galashiels died at the age of 69 years. He was for many years one of the best known practitioners in the Border Counties, and was one of the pillars of the profession in the South of Scotland. He graduated as a Doctor of Medicine at Edinburgh University in 1859, having become a Licentiate of the Royal College of Surgeons of Edinburgh in the previous year. He became a Fellow of the College 30 years later in 1889. After graduating he began practice in Inverleithen, but on the death of Dr. McDougall in Galashiels he removed there and that town has been the scene of his medical and public work. He took an active interest in the Border Counties Branch of the British Medical Association and the members of the branch showed their confidence in his judgment and capacity by sending him as their representative to the council of the Association. He held the posts of certifying factory surgeon and medical officer to the Post Office. He was also a justice of the peace for Selkirkshire. He contributed in the earlier part of his career some interesting papers to the *Edinburgh Medical Journal* and the *Practitioner*. He had a large practice and was highly valued as a family physician. For a number of years he was the senior practitioner in Galashiels. Dr. Somerville was not, however, only a successful practitioner, he was one of the most public-spirited men in his district. He took a warm interest in educational matters and was a member of the first School Board elected in 1873. For 15 years he was a member of the board and for nine of these he was chairman. After he retired from the board he was its representative on the county committee for secondary education. He took an active part in the establishment of the free library and of the cottage hospital and continued to take an active interest in the administration of the latter, which he wished to see extended for the reception of phthisical patients. At the meetings of the town council and of the School Board held since his death the warmest tributes have been paid to his public services and personal character. The chairman of the School Board spoke of him as "one of the ablest and most prominent of our public men" and as "a man of honour and integrity and in all his public work actuated by the highest motives." The Provost referred to the great loss the town had sustained in the death "of one of the best and ablest public men who had ever served it." Dr. Somerville was a warm adherent of the Baptist Church and was President of the Baptist Union of Scotland in 1900. He is survived by a widow, three sons, and three daughters. One of the sons, Dr. James W. Somerville, has been associated with his father in practice for a number of years.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Hess of Mayence, a well-known ophthalmic surgeon, at the age of 74 years.—Dr. Emil Burckhardt, professor of surgery in the University of Basle, at the age of 52 years. His Atlas of Cystoscopy is well known in all countries.—Dr. Gregorio N. Chaves, professor of clinical medicine in the University of Buenos Ayres.—Dr. Kostin, lecturer on physiology in the University of Odessa.—Dr. Hermann Münster, extraordinary professor of midwifery and gynæcology in the University of Königsberg.—Dr. A. Cochez, professor of clinical medicine in the University of Algeria.

Medical News.

UNIVERSITY OF OXFORD.—In a Congregation held on Oct. 21st the following degree in medicine was conferred:

Doctor of Medicine.—Richard Warren, New College.

The examinations for the degrees of B.M., B.Ch., will commence in the examination schools on Thursday, Dec. 7th. Names, accompanied in each case by the required certificates, must be sent in to the secretary to the Boards of Faculties, Clarendon Building, not later than 10.30 A.M. on Tuesday, Nov. 21st.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations in October the following candidates passed in the subjects indicated:—

Surgery.—F. C. H. Powell (Sections I. and II.), King's College Hospital; E. W. T. Watts (Sections I. and II.), Royal Free Hospital; and P. C. West (Sections I. and II.), Cambridge and St. Thomas's Hospital.

Medicine.—G. N. Biggs (Section II.), St. Thomas's Hospital and Durham; W. G. H. Cable (Section I.), London Hospital; M. O. Dollie (Sections I. and II.), University College Hospital; and P. L. Vawdrey (Sections I. and II.), St. Bartholomew's Hospital.

Midwifery.—R. C. T. Evans, University College Hospital; F. J. Macphail, Liverpool; J. L. Meynell, London Hospital; F. B. O'Dowd, Birmingham; C. S. Spencer, Manchester; and J. M. Wilson, Middlesex Hospital.

The diploma of the Society was granted to the following candidates entitling them to practise medicine, surgery, and midwifery:—

G. N. Biggs, P. L. Vawdrey, E. W. T. Watts, P. C. West, and J. M Wilson.

UNIVERSITY OF EDINBURGH.—At the special graduation ceremonial held on Oct. 21st the following degrees and certificates were conferred:—

Degree of Doctor of Medicine.—Llewelyn Wynne Davies, Wales, M.B., Ch.B., 1897.

Degrees of Bachelor of Medicine and Master in Surgery.—Alfred Ernest White, England.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—David Carnegie Alexander, Scotland; William Forrest Archibald, India; William Basson, Cape Colony; Alfred Jordan Beattie, Scotland; Edward James Black, Scotland; Gilbert Britto, India; Robert Bryson Calwell, Ireland; David Clement Crole, Scotland; Francis Henry Dickson, Scotland; James Dundas, Scotland; George Gunn, Australia; James Pringle Park Inglis, Scotland; Joseph Frain James, England; George Percy Joy, England; Donald Francis Mackenzie, England; Kenneth William Duncan Macrae, England; Frederick Charles Mills, M.A., England; Oswald Moir Miryiees, Scotland; Ronald Roderick Murray, Scotland; Richard Ernest Upton Newman, Ireland; Hubert James Norman, England; Henry Vernon Taylor, England; Robert Black Thomson, Scotland; Jan Hendrik du Toit, South Africa and Ashraf Nawaz Jung Vizarat, India.

Special University Certificate in Diseases of Tropical Climates.—Sorabji Jamasji Bhathena, L.R.C.P. and S. Edin. (*in absentid*); Edward James Black, M.B., Ch.B.; John Richard Holgate, M.B., Ch.B. (*in absentid*); Ronald Roderick Murray, M.B., Ch.B.; Ashraf Nawaz Jung Vizarat, M.B., Ch.B.; and Frances Margaret Wakefield M.B., Ch.B. (*in absentid*).

FOREIGN UNIVERSITY INTELLIGENCE.—*Cincinnati* (*Miami Medical College*): Dr. E. H. Shields has been appointed to the chair of Dermatology.—*Copenhagen*: Dr. Richard Kjer-Petersen and Dr. Oluf Thomsen have been recognised as *privat-docenten* in the Medical Faculty.—*Gratz*: Dr. Hans Spitzy has been recognised as *privat-docent* of Orthopædics.—*Innsbruck*: Dr. Alfred Greil has been recognised as *privat docent* of Anatomy.—*Königsberg*: Dr. Kretschmann of Magdeburg has been offered the chair of Otology and Rhinology in succession to Professor Berthold who is retiring.—*Leyden*: Dr. P. van Calcar has been recognised as *privat-docent* of Hygiene and Bacteriology.—*Prague* (*Bohemian University*): Dr. Franz Samberger has been recognised as *privat-docent* of Dermatology, Dr. Othomar Völker as *privat-docent* of Anatomy, and Dr. Josef Pelnár as *privat-docent* of Internal Medicine.—*Rome*: Dr. Salvatore Ottolenghi has been appointed Professor of Forensic Medicine.—*San Francisco* (*University of California*): Dr. J. C. Spencer has been appointed to the chair of Urinary and Venereal Diseases and Dr. A. B.

Spalding to that of Midwifery.—*Turin:* Dr. Mario Carrara has been appointed to the chair of Forensic Medicine.—*Vienna:* Dr. Julius Rothberger has been recognised as *privat-docent* of Experimental Pathology.

BAZAAR IN AID OF THE WEST HAM HOSPITAL.—At the request of the Duchess of Marlborough the opening of the Grand American bazaar at the Town Hall, Stratford, in aid of the West Ham Hospital has been postponed to Nov. 23rd. The committee make an earnest appeal to the public for assistance either in money or in gifts which should be sent to the honorary secretaries, Mr. G. Bush, 20, Clova-road, Forest Gate, E., and Mr. P. J. S. Nichol, 2, Romford-road, Stratford, E.

UNIVERSITY OF CAMBRIDGE.—Dr. Donald MacAlister has been elected chairman and Dr. Laurence Humphry secretary of the Special Board for Medicine.—The examinations for the M.B. degree in the present term will begin on Monday and Tuesday, Dec. 11th and 12th. The M.C. examination will begin on Thursday, Dec. 14th. The names of candidates must be sent, through the College officers, to the registrary by Saturday, Nov. 25th.—The number of freshmen matriculated on Oct. 21st was 1008. The number on the corresponding date last year was 884. From returns kindly supplied by the tutors it appears that the number of freshmen intending to study medicine in the University is 117. Last year the number was 89.—Mr. A. M. Sheild, M.B., B.C., of Downing College, has been appointed an examiner in surgery in the place of Sir Hector Cameron, resigned.

ST. JOHN'S HOUSE OF REST, MENTONE.—In consequence of the pressure of other work Prebendary Ingram and Dr. C. Theodore Williams, respectively the honorary secretary and consulting physician in London to the St. John's House of Rest, have found it necessary to resign. The Rev. W. H. Oxley and Dr. L. Thorne Thorne have placed their services at the disposal of the committee and, in addition, some 25 medical men in different parts of the country, in order to save applicants who reside at a distance the trouble and expense of a journey to London, have promised to undertake the independent medical examination required by the committee. The house, which is supported chiefly by voluntary subscriptions, is intended for clergymen and other professional men possessed of but small means who, in consequence of illness or overwork, require under medical advice rest and change during the winter months in a mild climate. The house is open from Nov. 1st to May 1st. The inclusive charge for board is 20*s.* a week, the voluntary subscriptions making up the balance. Special consideration is given to the cases of those who, desiring to be guests, are not able to afford to pay even this moderate sum or the railway fare to Mentone. Inquiries should be addressed to the Rev. W. H. Oxley, Petersham Vicarage, Surrey.

PROPOSED REVIVAL OF THE CHELTENHAM SPA.—A deputation from the Cheltenham Chamber of Commerce and from the medical committee of the town recently waited upon two committees of the Cheltenham town council to urge the governing body to take steps to revive the spa. Mr. E. B. Wethered (Local Government Board Inspector), who spoke on behalf of the Chamber of Commerce, pointed out that the mineral waters of the town were in days gone by regarded as very efficacious, that according to expert advice and analysis they had lost none of their potency, and that in the Winter Gardens the corporation possessed a property some portion of which might be utilised at no great expenditure to provide a spa for the dispensing of the waters, a lounge, and a recreation room, with the great probability that the use of the waters would be extensively revived and that a large influx of visitors would result. He emphasised the fact that the chamber did not advocate any great expenditure at the outset. It advised the corporation to proceed tentatively but believed that if an attractive spa were created at a moderate cost the scheme would develop the town, which was not at present making the best use of a very valuable asset.—Dr. Herbert Bramwell, on behalf of the medical profession, remarked that a certain percentage of Cheltenham's visitors came at present under medical advice to drink the waters but that there seemed to be a great want felt for an adequate and more imposing place in which to drink the waters. If a central spa were established and proper and efficient means were provided for dispensing the waters, and if the comfort and recreation of the visitors were also cared for, he believed that medical men would send many more of their patients to Cheltenham, the medicinal value of the waters of which was well known in the profession.—Mr. G. A. Cardew, Dr. J. R. Collins, and others also spoke in favour of the suggested scheme and it was recommended that the mineral waters committee and the town improvement committee should make a joint report and recommendation to the town council on the subject.

OLDHAM AND CREMATION.—The Oldham town council recently considered the question of extending the cemetery and a proposal was made that a crematorium should be provided. 50 per cent. of the people, the proposer said, were ready to adopt a more hygienic system than burial, but the council decided to extend the cemetery.

TAILOR AS DENTIST.—The Leicester education committee has appointed Mr. Campbell H. Baxter of Leicester dentist to the industrial school at Desford. The work of extracting teeth at the institution has hitherto been performed by the tailor.

ENTERIC FEVER AND SHELL-FISH.—At the meeting of the Newton Abbot (Devon) urban district council held on Oct. 16th the medical officer of health (Dr. H. B. Mapleton) reported some cases of enteric fever caused by eating cockles, and it was determined to issue public notices cautioning the residents as to the danger of eating this shell-fish.

ABERDEEN UNIVERSITY CLUB, LONDON.—The November dinner of this club will be held at the Trocadéro Restaurant, Shaftesbury-avenue, London, W., on Wednesday, Nov. 15th, at 7 P.M. Dr. James Galloway will be in the chair. Members desiring to be present should communicate before Nov. 11th with the honorary secretary, Dr. R. J. Collie, 25, Porchester-terrace, Hyde Park, London, W.

THE SHREWSBURY WATER QUESTION.—The result of a poll of the ratepayers of Shrewsbury in reference to a new water scheme for the borough was made known last week. Two schemes were submitted—viz., the Castle Pulverbatch scheme which it is estimated would cost £140,000 apart from the cost of the gathering ground and a river scheme which it is estimated would cost £88,000. It was stated on the voting papers that one or other of the schemes must be carried out, as it was absolutely necessary that steps should be taken immediately to provide an adequate and improved water-supply. The voting was as follows: for the Castle Pulverbatch scheme, 1903; for the river scheme, 923. There were 526 spoiled papers and 2207 voting papers were not returned. The result of the poll practically leaves unsolved the problem which has engaged the attention of the local corporation for many years. Last year the ratepayers rejected the Castle Pulverbatch scheme and before the council can proceed it must obtain an Act of Parliament. To do that the sanction of two-thirds of the ratepayers must be obtained. It is considered quite likely that when another vote is taken the scheme will be rejected, the ratepayers apparently being content to endure the present unsatisfactory dual supply in order to avoid any large outlay.

TREATMENT OF TUBERCULOSIS IN GERMANY.—The following figures are quoted by Mr. Schwabach, British Consul at Berlin, regarding the success of the treatment of tuberculosis in the "Heilstätten" (tuberculosis sanatoriums) erected in connexion with the Imperial working men's insurance. The number of patients was, in 1894, 3374, and in 1902, 16,489, who were treated at an expense of £51,355 and £292,931 respectively. The anti-tuberculosis movement is at present carried on in Germany principally by three societies—viz., (1) Deutsches Zentralcomité sur Errichtung von Heilstätten für Lungenkranke; (2) Berlin-Brandenburger Heilstättenverein für Lungenkranke; and (3) Volksheilstättenverein vom Roten Kreuz, Heilstätte Grabowsee. In 1904 there existed in Germany 27 private sanatoriums and 71 "Heilstätten" for tuberculous patients, the latter institutions providing 5600 beds in all. According to the Imperial Board of Health (Kaiserliches Gesundheitsamt) at Berlin the average results for the years 1896 to 1901 were as follows: Of 100 patients there were at the end of the treatment 67·3 per cent. fully able to resume their old occupation, 7·1 per cent. fully able to take up another vocation, 14·6 per cent. partly able to work, and 11 per cent. permanently incapacitated from work. That is to say, 87·7 per cent. were dismissed as either cured or convalescent, 8·8 per cent. as not improved, 3·1 per cent. had

become worse, and 0·5 per cent. had died. Of course, the condition of the patients when admitted into the "Heilstätten" greatly influenced the result. Of patients in the first and second stage of tuberculosis a higher percentage than that cited above could be cured or considered as improved—viz., 95·2 and 89·9 per 100 respectively. To appreciate fully the value of these statistics it would be necessary to compare them with the figures showing the results after a lapse of time.

MEMORIAL TO THE LATE DR. E. CROSSMAN.—On Oct. 21st the Bishop of Bristol dedicated two handsome frescoes which have just been placed in the sanctuary of the chapel attached to the Diocesan Training Institute at Fishponds, Bristol. They represent the raising of the daughter of Jairus and Christ blessing the children and are a memorial to the late Dr. Edward Crossman of Hambrook who for over 50 years was medical officer to the institution.

LITERARY INTELLIGENCE.—The new edition of Ellis's "Demonstrations of Anatomy," upon which Dr. Christopher Addison has been engaged for some time past, will be published by Messrs. Smith, Elder, and Co. on Nov. 1st. The matter has been altogether re-arranged and it now follows the ordinary course of dissection as carried out by students. New illustrations have been added, many of them, together with several of the old ones, being reproduced in colours, and a good deal of new matter has been introduced especially in the parts dealing with the viscera.

DIRTY SCHOOL CHILDREN.—At a meeting of the Leicester education committee on Oct. 23rd a subcommittee reported that in order to cope with the dirty condition of many of the scholars attending the Overton-road council school a nurse had been engaged to examine the children and to visit their parents. Mr. Baines, the chairman of the committee, in moving the adoption of the report, regretted that such an appointment had become necessary. He trusted, however, that in future parents would exercise more care and attention and that the continuance of the services of a nurse would not be necessary. If, however, it was found that parents continued to neglect their children in the matter of cleanliness drastic steps would have to be taken to bring home to them their responsibility. Alderman Windley, the chairman of the sanitary committee of the Leicester town council, in seconding the motion, suggested that inquiries should be made as to the cleanliness of the children attending other schools in the borough. It was quite time that this disgraceful neglect of the parents was brought home to them. Dr. F. W. Bennett said he was afraid that they would not succeed in their object by merely getting the children clean; they wanted to get the homes of the children clean. After further discussion the report was adopted.

VITAL STATISTICS OF SOUTH AUSTRALIA.—The report for the year 1904 issued by the Registrar-General of births, deaths, and marriages in South Australia is a lengthy document which, together with the appended tables, fills 53 large pages of print. The most important of the data and results are as follows: South Australia proper has an area of 380,070 square miles, while the Northern Territory, which is sparsely peopled and is not for statistical purposes included with South Australia proper, has an area of 523,620 square miles. On Dec. 31st, 1904, the estimated population of South Australia, exclusive of the inhabitants of the Northern Territory and of aborigines, was 368,652—namely, 187,906 males and 180,746 females. There were 9100 births registered (4665 males and 4435 females), giving a birth-rate of 24·89 per 1000, as compared with 23·43 per 1000 in 1903. Of the total births 365 were illegitimate, so that the proportion of illegitimate to total births was 4·01 per cent.; in 1903 this ratio was 4·18 per cent. and the Registrar therefore assumes that there has been "rather a decline in immorality." The deaths registered in 1904 numbered 3719, being fewer by 154 than those of the previous year and being the lowest number recorded in any year since 1892. The death-rate per 1000 of the mean population was 10·17, which was not only lower by 0·54 than that of 1903 but was the lowest death-rate on record. The deaths attributed to the zymotic class of diseases were fewer in 1904 than in any of the preceding 20 years. Of the total deaths from all causes 7·77 per cent. were attributed to pulmonary tuberculosis, against 7·64 in the previous year, while the proportion of deaths from this disease per 1000 of the mean population was 0·79, against 0·82 in 1903. The deaths from cancer (including all malignant new growths) numbered 226 (112 males and 114 females); the proportion of deaths from this disease per 1000 of the mean population was 0·62, against 0·72 in the previous year. The deaths of infants under one year of age were in the proportion of 7·0 to 100 births registered. The marriages registered in 1904 numbered 2526, being the highest number recorded in any year since 1884. The marriage rate—that is, the rate of marriages, not of persons married—per 1000 of the mean population was 6·91 and was the highest rate recorded since 1891. The highest shade temperature recorded at Adelaide Observatory was 114·0° F. in December and the lowest was 36·9° in May and also in July; the total rainfall was 20·31 inches.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the annual meeting of the President and Fellows of the Royal College of Physicians of Ireland the following were elected for the coming year:—President: Sir William J. Smyly. Vice-President: Mr. E. E. Lennon. Censors: Mr. Lennon, Dr. A. R. Parsons, Dr. J. H. R. Glenn, and Dr. W. R. Dawson. Additional examiners to take the place of an absent censor or examiner: Medicine, Dr. W. J. Thompson; Medical Jurisprudence and Hygiene, Mr. A. N. Montgomery; and Midwifery, Mr. T. Henry Wilson. Examiners for the licence to practise midwifery: Mr. A. J. Horne and Dr. Henry Jellett. Additional examiners under the Conjoint Examination scheme: Biology, Dr. E. MacDowel Cosgrave; Chemistry, Mr. E. Lapper and Dr. N. M. Falkiner; Physics, Dr. W. A. Winter and Dr. G. J. Peacocke; Pharmacy, Materia Medica, and Therapeutics, Dr. H. C. Drury and Dr. M. J. Dempsey; Physiology, Dr. H. C. Earl; Pathology, Dr. A. C. O'Sullivan; Medicine, Mr. J. Murphy and Dr. R. Travers Smith; and Hygiene and Forensic Medicine, Dr. H. T. Bewley. Examiners for the Conjoint Diploma in Public Health: Hygiene, Dr. Bewley; Chemistry, Mr. Lapper; and Meteorology, Dr. Winter. Eastern examiners in preliminary education: Mr. E. H. Alton, Mr. R. A. P. Rogers, and the Rev. Professor Murphy. Representative on the General Medical Council: Sir John W. Moore. Representatives on the committee of management: Dr. Walter G. Smith, Sir John Moore, and Dr. James Craig. Treasurer: Dr. Bewley. Registrar: Dr. Craig. Librarian: Mr. R. G. J. Phelps. Architect: Mr. A. E. Murray. Law agents: Messrs. Stephen Gordon and Son. Agent to the trust estate: Mr. C. U. Townshend, J.P.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AITKEN, D. MACRAE, M.B., Ch.B. Edin., F.R.C.S. Edin., has been appointed Assistant Medical Officer at the Bolingbroke Hospital, London, S.W.

ALFORD, E. FRANK R., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Physician at the City of London Hospital for Diseases of the Chest, Victoria Park, London, E.

ASH, B. M., has been appointed Assistant House Surgeon at the Salisbury Infirmary.

BATHURST, LACEY, M.B., B.S., L.R.C.P. Lond., M.R.C.S., has been appointed Senior House Surgeon to the Croydon General Hospital.

DAVIS, HARRY, L.R.C.P. Lond., M.R.C.S., L.S.A., D.P.H. Cantab., has been appointed Medical Officer of Health for the Callington Urban District (Cornwall) for three years.

GRAHAM, LEWIS, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon to the Croydon General Hospital.

HENDERSON, THOMAS BONHÔTE, M.B., B.Ch. Oxon., has been appointed House Surgeon at the Salisbury Infirmary.

HUMMEL, J. J., M.Sc., has been appointed Resident Clinical Assistant to the Leeds Hospital for Women and Children.

KERR, JAMES R., M.B., Ch.B. Glasg., has been appointed House Surgeon to the Royal Hospital for Sick Children, Glasgow.

LEACH, H., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Leeds Hospital for Women and Children.

MCELWAINE, THOMAS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator for the Stoke District by the Devonport Board of Guardians.

SAUNDERS, ERNEST GEORGE SYMES, M.D., C.M. Aberd., has been appointed Assistant Surgeon to the Royal Albert Hospital, Devonport.

SCOTT, T. GRAHAM, M.R.C.S., L.R.C.P. Lond., has been appointed House Anæsthetist at the Royal Dental Hospital, London.

TURNER, J. G., F.R.C.S., L.R.C.P., L.D.S., has been appointed Lecturer on Dental Surgery and Pathology to the Royal Dental Hospital, London.

WOOD, C. G. RUSS, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Ophthalmic and Aural Surgeon to the Wrexham Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARRA PARISH COUNCIL.—Medical Officer. Salary £119 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers for six months. Honorarium at rate of £20 and £10 a year respectively, with board and lodging.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, also Third House Surgeon, both unmarried. Salary of former £70 and of latter £50 per annum, with board and residence.

BRISTOL ROYAL INFIRMARY.—House Surgeon. Salary £100 a year, with apartments, board, and laundry.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months, renewable. Salary £60 per annum, with rooms, board, washing, and attendance.

GLOUCESTER, GENERAL INFIRMARY AT, AND GLOUCESTER EYE INSTITUTION.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

HOMERTON, HACKNEY UNION WORKHOUSE AND INFIRMARY.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with rations, apartments, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LEEDS GENERAL INFIRMARY.—Laboratory Curator. Salary £200 per annum.

LONDON COUNTY COUNCIL.—Medical Officer to Employees in District No. 20.

MAIDSTONE, KENT COUNTY OPHTHALMIC HOSPITAL.—House Surgeon. Salary £100, with board and residence.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Physician.

NATIONAL HOSPITAL FOR THE RELIEF AND CURE OF THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Anæsthetist. Also Assistant to the Pathological Department. Honorarium of £52 10s.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in Charge of Electrical Department. Salary £50 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House Surgeon. Salary £100, rising to £120, with board, lodging, and washing.

PORTSMOUTH (ROYAL) HOSPITAL.—Junior House Surgeon for six months Salary at rate of £50 per annum, with board, residence, and laundry.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for three months. Salary at rate of £60 per annum, with board, residence, and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry.

TOTTENHAM HOSPITAL, London, N.—Casualty Officer for six months. Salary £40 per annum, with residence, board, and laundry.

YORKS, RERTH UNION.—Medical Officer of Health and District Medical Officer. Salary £95 per annum and fees.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Gosport, in the county of Hants.

Births, Marriages, and Deaths.

BIRTHS.

DUNNETT.—On the 24th inst., at 7, Ascott-avenue, Ealing, Agnes Dunnett, M.B. Lond., wife of Lionel Francis Dunnett, of a son.

HARPER.—On Oct. 17th, at Stowmarket, the wife of Henry Cecil Harper, M.R.C.S. Eng., L.R.C.P. Lond. (née Heald), of a son.

HORDER.—On Oct. 22nd, at 141, Harley-street, W., the wife of Thomas J. Horder, M.D., of a daughter.

SALTER.—On Oct. 21st, at Prince of Wales's-terrace, Scarborough, the wife of Charles E. Salter, M.D., F.R.C.S., of a daughter.

MARRIAGE.

WILGRESS—WOODWARD.—On Oct. 23rd, at St. Luke's, Battersea, by the Right Rev. the Bishop of Lincoln, uncle of the bridegroom, assisted by the Rev. Canon Erskine Clark, John Henry Farquhar, M.B., B.C Cantab., of Folkestone, youngest son of the late Rev. George Frederick Wilgress, to Florence Edith, third daughter of the late Thomas Woodward of Feltham.

DEATHS.

FIELD.—On Oct. 11th, at Belmont, Bath, Ernest Field, M.D., M.R.C.S., L.R.C.P., aged 54 years.

NARIMAN.—On April 24th, at Nasik, Kaikhushro Sorabji Nariman, L.R.C.S., L.M. Edin., L.S.A. Lond., L.M. Bom., Lieutenant-Colonel, Indian Medical Service, aged 53 years.

SMITH.—On Sept. 11th, at Kitano-cho, 4-chome, Kobe, Japan, George D. Smith, M.D. Edin., aged 53 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

LIFE INSURANCE IN POOR DISTRICTS.

A WRITER in a recent issue of the *Manchester Medical Students' Gazette* under the heading of "Medical Slumming" gives a very interesting account of medical work among the poor in their own homes. Incidentally he explains how some life insurance companies find the issuing of policies to this class of people very profitable. He says: "Touts from numerous insurance companies swarm everywhere, and practically every man, woman, and child is insured at some period of their lives. The iniquity of the system lies in the way in which it is carried out. Lives are insured for sums varying from £5 to £20, the average being £8 to £10. There is no medical examination. Instead of this a clause is inserted into the policy which the applicant for insurance signs, which states that he or she has not, and never has had, any of a long list of diseases, comprising all those most commonly met with. It will be readily seen that this clause will nearly always furnish a loophole if the company wish to refuse payment on a claim, especially as the heirs of the deceased have, as a rule, no money at all with which to go to law. False statements regarding age and other matters, if not sometimes actually encouraged, are often winked at by the agent when canvassing. In consequence many of the ages are understated and it is a regular occurrence to be asked to alter the age in a death certificate in order to make it conform with that recorded in the insurance policy." The writer considers that the reason for all this laxness is that the chief profits are made, not out of ordinary insurance business as it is usually understood, but out of fines and forfeited policies, some companies deducting £1 from the amount of the claim for every year of age understated. If a man is insured for £10 and his age is given as 50 years whereas it is really 55 years, £5 will be deducted; the greater the original inaccuracy on the part of the insurer the greater the profit to the insurance companies. Forfeited policies are stated to be a valuable source of income to certain so-called insurance companies, as a large proportion of policy holders cannot manage to pay the premiums regularly. Hence, according to the writer in the *Manchester Medical Students' Gazette*, "provided the applicant does not appear to be in imminent danger of dying, the presence or not of disease is of no great matter. If he does happen to die a few weeks after insurance the claim, on account of the clause alluded to above, can be contested," while if no such catastrophe happens the premiums are fairly certain to lapse. The article is a very interesting one to us as we have frequently had occasion to allude to the lax code of certain insurance companies, particularly in respect of the insurance of infants. Medical men will be doing good service to many of their humbler patients if they will advise them upon the principles of life insurance for poor people.

THE LONDON TEMPERANCE HOSPITAL AND TEMPERANCE STATISTICS.

To the Editors of THE LANCET.

SIRS,—The majority of your readers will find Dr. Dawson Burns's note in your last issue far from convincing and the very grave question remains as to whether the mortality (especially infantile) at the London Temperance Hospital would not be further reduced were the practice of its staff more in accordance with the dictates of clinical experience. For here we have a body of medical men, with the enthusiastic approbation of a lay committee, withholding one of the most powerful, and in some cases indispensable, drugs in the Pharmacopœia purely for the purposes of experimentation, with a view to the glorification of their own particular views. Holding, as do all thoughtful people, that the excessive use of alcohol as a beverage in health is one of the greatest curses of the present generation, they must needs proceed at the risk of their patients' health to manufacture proof of its uselessness—indeed, harmfulness—as a therapeutic agent in the well-meaning but unjustifiable belief that they are thereby advancing the cause of temperance. You yourselves, just recently, in commenting on the subject, stated that "In certain cases of exhausting diseases the value of small doses of a good brand of champagne, &c., cannot be over-estimated," in which statement of opinion you have, of course, the vast majority of the profession at your back. Dr. Dawson Burns expatiates on the number of little children whose fate is sealed before they come into the hands of the medical staff of the London Temperance Hospital, and one is tempted to add that the chances of a proportion of the remainder must be at the same time sensibly diminished, so well established beyond question is the immense therapeutic value of alcohol in many types of children's diseases. Dr. Eustace Smith in Clifford Allbutt's "System of Medicine" writes: "Children are very easily depressed by acute diseases, so that it is important to watch for early signs of failure. On this account alcoholic stimulants take a high place amongst internal remedies and a few doses of this medicine will often in a few hours completely alter the aspect of the case and turn the scale in favour of recovery. It is a matter of common observation at the East London Hospital for Children that the young patients

who are enfeebled and wasted by privations of all kinds, combined with long-continued ill-health, *often make no response to drugs* until their exhausted energies have been revived by a few doses of wine or brandy." Words of wisdom that might well be written in letters of gold over the entrance to the children's ward at the London Temperance Hospital, only that I fear the minds of the staff of that hospital are insensible to argument or persuasion. At any rate, in refusing on insufficient data to make legitimate use of alcohol as a drug and to give their juvenile patients, who themselves can have no voice in the matter, the proven benefit of its use, they are undoubtedly incurring a grave responsibility. It is high time that the alcohol question in all its bearings should be submitted to a conference of experts of unbiased minds and of indisputable experience in the treatment of disease.

I am, Sirs, yours faithfully,

St. Mary Axe, E.C., Oct. 22nd, 1905. ALFRED H. COPEMAN.

THE USE OF CONFIDENTIAL INFORMATION.

INQUIRER writes:—

A has a very old-established good-class country practice and takes a partner, B. Circumstances arise necessitating A leaving. B refuses to release him or to allow him to introduce another in his place. Eventually upon pressure B consents to a dissolution, each to be free to do as he likes and to practise independently. A consequently offers his connexion for sale and a proposed purchaser, C, endeavours to make terms but negotiations fail through. Subsequently A succeeds in selling to D and D pays his purchase money and takes possession. Shortly after this C, who had previously been in treaty, takes a house close to D and starts in opposition. Is this ethical or honourable?

We think that C has taken a very ill-advised course. However clear he may be in his own mind that he has not selected the neighbourhood for practice owing to confidential information which he possibly may have obtained while in private negotiation with A, an adverse interpretation is sure to be put upon the matter.

JOHN BROWNE OF NORWICH.

To the Editors of THE LANCET.

SIRS,—For many years I have had in my possession a book entitled, "A Compleat Treatise of Preternatural Tumours, both General and Particular, as they Appear in the Humane (*sic*) Body from Head to Foot. ..... Composed and digested by John Brown, Sworn Chirurgion-in-Ordinary to the King's Most Excellent Majesty. London: printed by S. R. for R. Clavel at the Peacock at the West End of S. Paul's, 1678." I may add that this book is very quaintly written and more quaintly illustrated. The author, John Brown, hailed from Norwich and was regarded as a surgeon of considerable ability as is evidenced by a laudatory poem composed by one John Cadbury, student in physic and astrology. There is also a note of appreciation from one Thomas Brown. I am somewhat curious to ascertain whether this Thomas Brown is the same individual as "Sir Thomas Browne" whose tercentenary has just been celebrated, and whether John could have been a member of the same family. You will notice that the final "e" in the name does not occur but that may be of little moment. I thought the fact might interest some of your readers and that through you some further light might be thrown upon the matter.

I am, Sirs, yours faithfully,

JAMES ALBERT BRIGHT, M.R.C.S. Eng., &c.

Penge-road, South Norwood, S.E., Oct. 23rd, 1905.

*** The John Browne in question, who seems generally to have spelt his name with an "e," came of a surgical family and lived at Norwich, but, according to the "National Dictionary of Biography," was not a relative of his friend and considerable senior, Sir Thomas Browne. John Browne's best-known work is "Charisma Basilikon"—an account of touching for the King's-evil.—ED. L.

G. H. L.—The form in which the questions have been asked unfits them for publication. The gentleman complained of, and others, would recognise the case and would have legal grounds for resenting the assumption that they were in the wrong throughout. For the same reasons we cannot answer the questions in the order in which they are put to us. Our correspondent may rest assured, however, that if he makes a complaint to the General Medical Council that his late assistant has deliberately canvassed for patients the Council will inquire into the matter. It does not make the least difference whether he has canvassed for patients himself or through an agent, or whether the patients are his late principal's or those of another medical man. If, again, the charge of covering can be proved the accused person has been guilty of a professional offence, for which he might be removed from the Register by the General Medical Council. The Council will, however, require strict evidence of all the allegations.

Subscriber.—We strongly recommend our correspondent not to start in practice in a locality where he has privately obtained knowledge of the business position of another practitioner. However small the chance might be of damaging that practitioner he would run some risk of being regarded as one who had abused confidential information.

Riviera.—Our correspondent must graduate at a French university if he wishes to practise in the French Riviera. Five examinations having been passed, a thesis must be written and sustained. No concession is made to foreigners in respect of qualifications already obtained in other countries.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (1st).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown. Short Communication:—Mr. C. N. Longridge: Case of Eclampsia. Paper:—Mr. A. Doran: Subtotal Hysterectomy for Fibroids, After-histories of 60 Cases, Preservation of Ovary and the Abel-Zweifel Theor .

THURSDAY (2nd).—NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M. Address:—Mr. A. W. Mayo Robson: Common Duct Cholelithiasis, Symptoms, Complications, and Treatment.

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.15 P.M. Paper:—Prof. Wertheim-Salomonson (Amsterdam): The Ruhmkorff Coil.

CHILDHOOD SOCIETY AND THE BRITISH CHILD-STUDY ASSOCIATION (Parkes Museum, Margaret-street, W.).—8 P.M. Lecture:—Prof. R. Barnes: A Quantitative Study—Children's Attitude towards History. (Arranged by the British Child-Study Association.)

FRIDAY (3rd).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith, W.).—8 P.M. Clinical Meeting.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Mr. de Santi, Dr. Kelson, Dr. Potter, Sir Felix Semon, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. J. Pringle: Clinique. (Skin.) 5.15 P.M. Dr. L. Williams: The Therapeutics of Some Common Ailments.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Armour: Diseases of the Gall Bladder. (Lecture I.)

TUESDAY (31st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Clinique. (Medical.) 5.15 P.M. Mr. M. Gunn: Ophthalmic Evidences of General Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Armour: Diseases of the Gall Bladder. (Lecture II.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Sir W. Gowers.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. A. J. Whiting: The Diagnosis of Functional Nervous Disease.

WEDNESDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M. Dr. H. Tilley: The Diagnosis and Treatment of Nasal and Post-Nasal Catarrh.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (North-Eastern Fever Hospital, St. Ann's-road, N.).—2.30 P.M. Dr. F. M. Turner: Demonstration on Fevers.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Clinical Lecture on Cases in the Wards.

UNIVERSITY COLLEGE, LONDON (Gower-street, W.C.).—Clinical Lecture:—Dr. Poynton: Arthritis (with lantern demonstration).

THURSDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Mr. A. H. Tubby: Surgical Disease of Children.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Edwards: Vesical Stone.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Lecture:—Dr. McCann: The Treatment of Inoperable Cancer.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-Graduate Course.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M. Dr. M. Dockrell: The Solution of the Confusion between Pityriasis Rubra, Pilaris, and Lichen, and the Treatment of each. (Chesterfield Lecture.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture:—Dr. G. Johnston: Prognosis in Phthisis. (Post-Graduate Course.)

WESTMINSTER HOSPITAL MEDICAL SCHOOL (University of London) (Caxton-street, Westminster, S.W.).—5 P.M. Lecture:—Dr. B. Abrahams: Applied Physiology. (Lecture IV.)

FRIDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. H. Tilley: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Practical Surgery.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. Ormerod: Locomotor Ataxy.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 26th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
Oct. 20	30·27	N.E.	...	83	48	36	38	39	Fine
,, 21	30·03	W.	...	65	48	35	37	39	Cloudy
,, 22	30·03	W.	0·09	79	47	32	31	32	Fine
,, 23	30·14	N.	...	74	50	32	38	39	Overcast
,, 24	30·16	N.	0·01	55	47	37	40	41	Overcast
,, 25	30·23	N.E.	0·01	56	47	35	37	37	Overcast
,, 26	30·29	S.W.	...	57	45	33	34	35	Foggy

During the week marked copies of the following newspapers have been received: *Norfolk News, Norfolk Chronicle, Eastern Daily Press, Yorkshire Post, Wigan Observer, Western Mail, Westminster Gazette, Birmingham Post, Daily Telegraph, Hampshire Advertiser, Southampton Echo, Halifax Courier, Morning Advertiser, Daily News, Edinburgh Evening News, Scottish Review, Wolverhampton Midland Express, Darlington Times, Citizen, Newcastle Chronicle, Literary Digest (New York), Scientific American, Glasgow Herald, &c.*

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